

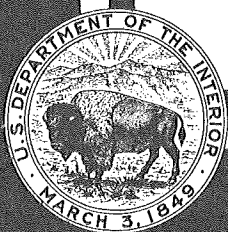
Joe Robles

1967

Water Resources Data for California

Part 1. Surface Water Records

Volume 2: Northern Great Basin and Central Valley



UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

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

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Water Resources Division

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FOR
CALIFORNIA
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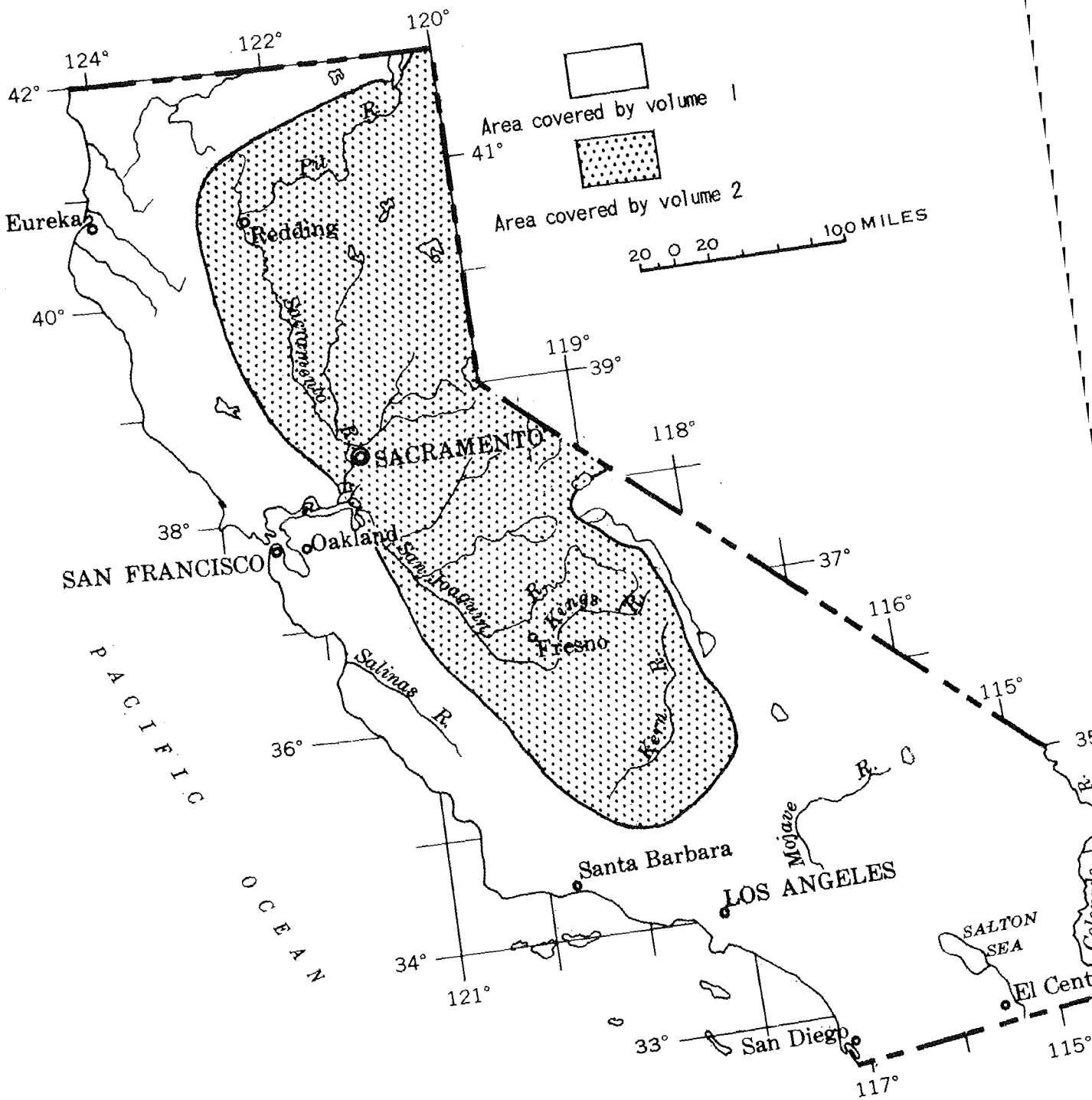
Water-resources records, 1967, for California are in the following reports of the U.S. Geological Survey:

1. Water Resources Data for California
Part 1: Surface Water Records
Volume 1: Colorado River Basin, Southern Great Basin, and Pacific Slope Basins excluding Central Valley
2. Water Resources Data for California
Part 1: Surface Water Records
Volume 2: Northern Great Basin and Central Valley
3. Water Resources Data for California
Part 2: Water Quality Records

Copies of these reports may be obtained from
District Chief, Water Resources Division
U.S. Geological Survey
855 Oak Grove Avenue
Menlo Park, California 94025

Prepared in cooperation with

California Department of Water Resources
Alameda County Flood Control and Water Conservation District
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Bollinas Harbor District
Calaveras County Water District
Coachella Valley County Water District
Contra Costa County Flood Control and Water Conservation District
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CONTENTS

	Page
Introduction-----	489
Cooperation-----	490
Definition of terms and abbreviations-----	491
Downstream order and station numbers-----	492
Explanation of data-----	493
Accuracy of field data and computed results-----	496
Other data available-----	497
Hydrologic conditions-----	497
Gaging-station records-----	500
<u>Walker Lake basin</u>	
Virginia Creek (head of Walker River) near Bridgeport-----	500
Green Creek near Bridgeport-----	501
Upper Twin Lake near Bridgeport-----	502
Lower Twin Lake near Bridgeport-----	503
Robinson Creek at Twin Lakes outlet, near Bridgeport-----	504
Buckeye Creek near Bridgeport-----	505
Swager Creek near Bridgeport-----	506
East Walker River (continuation of Virginia Creek):	
Bridgeport Reservoir:	
Bridgeport Reservoir tributary near Bridgeport-----	507
Bridgeport Reservoir near Bridgeport-----	508
East Walker River near Bridgeport-----	509
East Walker River above Strosnider ditch, near Mason, Nev-----	510
West Walker River:	
Little Walker River near Bridgeport-----	511
West Walker River below Little Walker River, near Coleville----	512
West Walker River near Coleville-----	513
Topaz Reservoir near Topaz-----	514
West Walker River at Hoyo Bridge, near Wellington, Nev-----	515
<u>Humboldt-Carson Sink basin</u>	
<u>Carson River basin</u>	
East Fork Carson River:	
Silver Creek below Pennsylvania Creek, near Markleeville-----	516
East Fork Carson River below Markleeville Creek, near	
Markleeville-----	517
East Fork Carson River near Gardnerville, Nev-----	518
West Fork Carson River at Woodfords-----	519
<u>Pyramid and Winnemucca Lakes basin</u>	
Pyramid Lake near Nixon, Nev-----	520
Upper Truckee River (head of Truckee River) near Meyers-----	521
Blackwood Creek near Tahoe City-----	522
Trout Creek near Tahoe Valley-----	523
Lake Tahoe at Tahoe City-----	524

	Page
Gaging-station records--Continued	
Pyramid and Winnemucca Lakes basin--Continued	
Truckee River at Tahoe City-----	525
Donner Creek at Donner Lake, near Truckee-----	526
Martis Creek near Truckee-----	527
Prosser Creek:	
Alder Creek near Truckee-----	528
Prosser Creek Reservoir near Boca-----	529
Prosser Creek near Boca-----	530
Little Truckee River near Hobart Mills-----	531
Sagehen Creek near Truckee-----	532
Little Truckee River above Boca Reservoir, near Boca-----	533
Boca Reservoir at Boca-----	534
Little Truckee River at Boca-----	535
Truckee River at Farad-----	536
Truckee River at Reno, Nev-----	537
<u>Honey Lake basin</u>	
Mill Creek at Milford-----	538
Susan River at Susanville-----	539
Willow Creek:	
Willow Creek tributary near Susanville-----	540
Willow Creek near Susanville-----	541
<u>Eagle Lake basin</u>	
Eagle Creek at Eagleville-----	542
<u>Surprise Valley basin</u>	
Bidwell Creek below Mill Creek, near Fort Bidwell-----	543
<u>Buena Vista Lake basin</u>	
Kern River:	
Golden Trout Creek near Cartago-----	544
Kern River near Quaking Aspen Camp-----	545
Little Kern River near Quaking Aspen Camp-----	546
Kern River near Kernville-----	547
Salmon Creek:	
Salmon Creek tributary B near Fairview-----	549
Salmon Creek tributary C near Fairview-----	550
Salmon Creek tributary E near Fairview-----	551
Kern River at Kernville-----	552
Borel Canal below Isabella Dam-----	553
South Fork Kern River near Olancho-----	554
South Fork Kern River near Onyx-----	555
Kelso Creek near Weldon-----	556
Isabella Reservoir near Isabella-----	557
Kern River below Isabella Dam-----	558
Kern River near Democrat Springs-----	559
Kern River near Bakersfield-----	561
Westside Canal:	
Buena Vista Slough:	
Wagonwheel Creek near Reward-----	562
San Emigdio Creek at San Emigdio Ranchhouse-----	563

	Page
Gaging-station records--Continued	
Buena Vista Lake basin--Continued	
Pastoria Creek near Lebec-----	564
Caliente Creek above Tehachapi Creek, near Caliente-----	565
Tehachapi Creek near Tehachapi-----	566
Tulare Lake basin	
Avenal Creek near Avenal-----	567
Poso Creek near Oildale-----	568
Middle Fork Tule River:	
North Fork of Middle Fork Tule River near Springville-----	569
Tule River:	
North Fork Tule River at Springville-----	571
Tule River near Springville-----	572
South Fork Tule River near Success-----	573
Pioneer ditch below Success Dam-----	574
Lake Success near Success-----	575
Tule River below Success Dam-----	576
Middle Fork Kaweah River near Potwisha Camp-----	577
Marble Fork Kaweah River at Potwisha Camp-----	579
Middle Fork Kaweah tributary near Hammond-----	581
East Fork Kaweah River near Three Rivers-----	582
Kaweah River at Three Rivers-----	584
South Fork Kaweah River at Three Rivers-----	585
Lemoncove ditch below Terminus Dam-----	586
Lake Kaweah near Lemoncove-----	587
Foothill ditch below Terminus Dam-----	588
Kaweah River below Terminus Dam-----	589
Dry Creek near Lemoncove-----	590
Kings River above North Fork, near Trimmer-----	592
North Fork Kings River below Meadow Brook-----	593
Helms Creek below Courtright Dam-----	594
Reservoirs in Tulare Lake basin-----	595
North Fork Kings River near Cliff Camp-----	596
Teakettle Creek at site No. 3, near Patterson Mountain-----	597
Teakettle Creek tributary No. 2 near Patterson Mountain----	598
Teakettle Creek tributary No. 2A near Patterson Mountain----	599
Teakettle Creek tributary No. 1 near Patterson Mountain----	600
North Fork Kings River above Dinkey Creek, at Balch Camp-----	601
Rock Creek at Dinkey Creek-----	602
North Fork Kings River below Dinkey Creek, near Balch Camp-----	603
Kings River below North Fork, near Trimmer-----	604
Big Creek above Pine Flat Reservoir, near Trimmer-----	605
Sycamore Creek above Pine Flat Reservoir, near Trimmer-----	606
Pine Flat Reservoir near Piedra-----	607
Kings River below Pine Flat Dam-----	608
Mill Creek near Piedra-----	609
Los Gatos Creek above Nunez Canyon, near Coalinga-----	610
San Joaquin River basin	
Middle Fork San Joaquin River:	
North Fork San Joaquin River below Iron Creek-----	612

Gaging-station records--Continued	
San Joaquin River basin--Continued	
San Joaquin River at Miller Crossing-----	613
Granite Creek near Cattle Mountain-----	614
South Fork San Joaquin River:	
Florence Lake:	
Ward tunnel intake at Florence Lake-----	615
Florence Lake near Big Creek-----	618
South Fork San Joaquin River near Florence Lake-----	619
Bear Creek near Lake Thomas A. Edison-----	620
Lake Thomas A. Edison near Big Creek-----	621
Mono Creek below Lake Thomas A. Edison-----	622
Jackass Creek near Bass Lake-----	623
Chiquito Creek near Bass Lake-----	624
Mammoth Pool Reservoir near Big Creek-----	625
San Joaquin River above Shakeflat Creek, near Big Creek-----	626
Big Creek:	
Ward tunnel outlet at Huntington Lake-----	627
Huntington Lake near Big Creek-----	630
Big Creek below Huntington Lake-----	631
Pitman Creek below Tamarack Creek-----	632
Stevenson Creek:	
Huntington-Shaver conduit outlet near Shaver Lake-----	633
Shaver Lake near Big Creek-----	634
Redinger Lake near Auberry-----	635
San Joaquin River above Willow Creek, near Auberry-----	636
North Fork Willow Creek (head of Willow Creek) near Sugar Pine---	637
Bass Lake near Bass Lake-----	638
Pacific Gas & Electric Co. conduit No. 3 near Bass Lake-----	639
North Fork Willow Creek near Bass Lake-----	640
Willow Creek at mouth, near Auberry-----	641
San Joaquin River below Kerckhoff powerhouse, near Prather-----	642
Millerton Lake:	
Madera Canal at Friant-----	643
Friant-Kern Canal at Friant-----	644
Millerton Lake at Friant-----	645
San Joaquin River below Friant-----	646
Cantua Creek near Cantua Creek-----	647
Panoche Creek below Silver Creek, near Panoche-----	648
Fresno River:	
Miami Creek near Oakhurst-----	649
Fresno River near Knowles-----	650
Coarse Gold Creek:	
Picayune Creek near Coarsegold-----	651
Fresno River near Daulton-----	652
Chowchilla River:	
East Fork Chowchilla River near Ahwahnee-----	653
West Fork Chowchilla River near Mariposa-----	654
Middle Fork Chowchilla River near Nipinnawassee-----	655
Chowchilla River at Buchanan damsite, near Raymond-----	656

CONTENTS

IX

	Page
Gaging-station records--Continued	
San Joaquin River basin--Continued	
Bear Creek near Catheys Valley-----	657
Burns Creek near Hornitos-----	658
Mariposa Creek near Catheys Valley-----	659
Salt Slough near Los Banos-----	660
San Joaquin River at Fremont Ford Bridge-----	661
Merced River at Happy Isles Bridge, near Yosemite-----	662
Merced River at Pohono Bridge, near Yosemite-----	663
South Fork Merced River at Wawona-----	664
South Fork Merced River near El Portal-----	665
Merced River near Briceburg-----	666
Maxwell Creek at Coulterville-----	667
Lake McClure at Exchequer-----	668
Merced River below Merced Falls Dam, near Snelling-----	669
Merced River at Shaffer Bridge near Cressey-----	670
Dry Creek near Snelling-----	671
Merced River near Stevinson-----	672
Merced River Slough near Newman-----	673
San Joaquin River near Newman-----	674
Orestimba Creek near Newman-----	675
Del Puerto Creek:	
Del Puerto Creek tributary No. 1 near Patterson-----	676
Del Puerto Creek near Patterson-----	677
Maclure Creek (head of Tuolumne River) below Maclure Glacier, near Tuolumne Meadows-----	678
Falls Creek near Hetch Hetchy-----	680
Hetch Hetchy Reservoir at Hetch Hetchy-----	681
Tuolumne River near Hetch Hetchy-----	682
Tuolumne River below Early Intake, near Mather-----	683
Cherry Creek:	
Cherry Lake near Hetch Hetchy-----	684
Cherry Creek below Cherry Valley Dam, near Hetch Hetchy-----	685
Eleanor Creek:	
Lake Eleanor near Hetch Hetchy-----	686
Eleanor Creek near Hetch Hetchy-----	687
Cherry Creek Canal near Early Intake-----	688
Cherry Creek near Early Intake-----	689
Cherry Creek below Dion R. Holm powerhouse, near Mather-----	690
South Fork Tuolumne River near Oakland Recreation Camp-----	691
Middle Tuolumne River at Oakland Recreation Camp-----	692
Lily Creek (head of Clavey River) near Pinecrest-----	693
Bell Creek near Pinecrest-----	694
Clavey River near Buck Meadows-----	695
Big Creek near Groveland-----	696
North Fork Tuolumne River near Long Barn-----	697
Woods Creek near Jacksonville-----	698
Don Pedro Reservoir near La Grange-----	699
Tuolumne River above La Grange Dam, near La Grange-----	700
Modesto Canal near La Grange-----	701
Turlock Canal near La Grange-----	702

	Page
Gaging-station records--Continued	
San Joaquin River basin--Continued	
Tuolumne River at Modesto-----	703
Middle Fork Stanislaus River at Kennedy Meadows, near Dardanelle-----	705
Clark Fork Stanislaus River near Dardanelle-----	706
Donnell Lake near Dardanelle-----	707
Middle Fork Stanislaus River at Hells Half Acre Bridge-----	708
Beardsley Lake near Strawberry-----	709
Middle Fork Stanislaus River below Beardsley Dam-----	710
North Fork Stanislaus River below Silver Creek-----	711
Highland Creek below Spicer Meadows Reservoir-----	712
North Fork Stanislaus River below Ganns damsite, near Big Meadow-----	713
North Fork Stanislaus River near Avery-----	714
Stanislaus River:	
Stanislaus River near Hathaway Pines-----	715
South Fork Stanislaus River at Strawberry-----	717
Philadelphia Canal near Strawberry-----	718
Tuolumne Canal near Long Barn-----	719
South Fork Stanislaus River near Long Barn-----	720
Melones Reservoir at Melones Dam-----	721
Stanislaus River below Melones powerhouse, near Sonora-----	722
Tulloch Reservoir near Knights Ferry-----	723
South San Joaquin Canal near Knights Ferry-----	724
Oakdale Canal near Knights Ferry-----	725
Stanislaus River below Goodwin Dam, near Knights Ferry-----	726
Stanislaus River at Ripon-----	727
San Joaquin River near Vernalis-----	728
South Fork Calaveras River near San Andreas-----	729
North Fork Calaveras River near San Andreas-----	730
Calaveras River:	
New Hoagan Reservoir near Valley Springs-----	731
Calaveras River below New Hogan Dam, near Valley Springs-----	732
Cosgrove Creek near Valley Springs-----	733
Bear Creek near Lockeford-----	734
Delta-Mendota Canal at Tracy pumping plant, near Tracy-----	735
North Fork Mokelumne River:	
Salt Springs Reservoir near West Point-----	737
Tiger Creek powerhouse conduit below Salt Springs Dam-----	738
North Fork Mokelumne River below Salt Springs Dam-----	739
Cole Creek near Salt Springs Dam-----	740
Bear River near Salt Springs Dam-----	741
Mokelumne River:	
Middle Fork Mokelumne River:	
Forest Creek near Wilseyville-----	742
Middle Fork Mokelumne River at West Point-----	743
South Fork Mokelumne River near West Point-----	744
Mokelumne River near Mokelumne Hill-----	745

CONTENTS

XI

	Page
Gaging-station records--Continued	
San Joaquin River basin--Continued	
Pardee Reservoir near Valley Springs-----	746
Camanche Reservoir near Clements-----	747
Mokelumne River below Camanche Dam-----	748
Woodbridge Canal at Woodbridge-----	749
Mokelumne River at Woodbridge-----	750
Dry Creek above Sutter Creek, near Ione-----	751
Sutter Creek near Sutter Creek-----	752
Dry Creek near Galt-----	753
North Fork Cosumnes River:	
Camp Creek near Somerset-----	754
North Fork Cosumnes River near El Dorado-----	755
Middle Fork Cosumnes River near Somerset-----	756
South Fork Cosumnes River near River Pines-----	757
Cosumnes River at Michigan Bar-----	758
Cosumnes River at McConnell-----	759
Beach Lake:	
Morrison Creek near Sacramento-----	760
Contra Costa Canal near Oakley-----	761
Dutch Slough:	
Marsh Creek near Byron-----	762
<u>Sacramento River basin</u>	
Sacramento River near Mount Shasta-----	763
Sacramento River at Delta-----	764
North Fork Pit River near Alturas-----	766
South Fork Pit River near Likely-----	767
Pit River near Alturas-----	768
Pit River near Canby-----	769
Pit River near Lookout-----	770
Ash Creek at Adin-----	771
Pit River near Bieber-----	772
Horse Creek at Little Valley, near Pittville-----	773
Dry Creek near Dana-----	774
Fall River near Dana-----	775
Hat Creek near Hat Creek-----	776
Burney Creek near Burney-----	777
Pit River below Pit No. 4 Dam-----	778
Pit River at Big Bend-----	779
James B. Black Powerplant near Big Bend-----	780
Iron Canyon Creek below Iron Canyon Dam near Big Bend-----	781
Pit River near Montgomery Creek-----	782
McCloud River near McCloud-----	783
McCloud-Iron Canyon diversion tunnel near McCloud-----	784
McCloud River below McCloud Dam, near McCloud-----	785
McCloud River at Ah-Di-Na, near McCloud-----	786
McCloud River above Shasta Lake-----	787
Reservoirs in Pit and McCloud river basins-----	788
Shasta Lake near Redding-----	789

	Page
Gaging-station records--Continued	
Sacramento River basin--Continued	
Sacramento River at Keswick-----	790
Clear Creek at French Gulch-----	791
Judge Francis Carr powerplant near French Gulch-----	792
Spring Creek powerplant at Keswick-----	793
Wiskeytown Lake near Igo-----	794
Clear Creek near Igo-----	795
Churn Creek below Newtown Creek near Redding-----	796
Cow Creek:	
South Cow Creek near Millville-----	797
Cow Creek near Millville-----	798
Bear Creek:	
Shingle Creek near Shingletown-----	799
Bear Creek near Millville-----	800
Middle Fork Cottonwood Creek near Ono-----	801
North Fork Cottonwood Creek near Igo-----	802
South Fork Cottonwood Creek near Cottonwood-----	803
Cottonwood Creek near Cottonwood-----	804
Battle Creek below Coleman Fish Hatchery, near Cottonwood-----	805
Sacramento River near Red Bluff-----	806
Red Bank Creek near Red Bluff-----	807
Red Bank Creek at Rawson Road Bridge near Red Bluff-----	808
Antelope Creek near Red Bluff-----	809
Elder Creek near Paskenta-----	810
Elder Creek at Gerber-----	811
Mill Creek near Los Molinos-----	812
Thomes Creek at Paskenta-----	813
Deer Creek below Slate Creek, near Deer Creek Meadows-----	814
Deer Creek near Vina-----	815
Big Chico Creek near Chico-----	816
Mud Creek near Chico-----	817
Stony Creek:	
Little Stony Creek above East Park Reservoir, near Lodoga-----	818
Grindstone Creek near Elk Creek-----	819
Stony Creek near Fruto-----	820
North Fork Stony Creek near Newville-----	821
South Diversion Canal near Orland-----	822
Black Butte Reservoir near Orland-----	823
Stony Creek below Black Butte Dam, near Orland-----	824
Stony Creek near Hamilton City-----	825
Sacramento River at Butte City-----	826
Sacramento River at Colusa-----	827
Butte Creek at Butte Meadows-----	828
Butte Creek near Chico-----	829
Sacramento River below Wilkings Slough, near Grimes-----	831
Colusa Drain:	
South Fork Willow Creek (head of Willow Creek) near Fruto-----	832
Walker Creek at Artois-----	833
Stone Corral Creek near Sites-----	834

CONTENTS

XIII

	Page
Gaging-station records--Continued	
Sacramento River basin--Continued	
Sacramento River at Knights Landing-----	835
Middle Fork Feather River (head of Feather River):	
Little Last Chance Creek near Chilcoot-----	836
Big Grizzly Creek near Portola-----	837
Middle Fork Feather River near Clio-----	838
Middle Fork Feather River near Merrimac-----	839
Fall River near Feather Falls-----	840
South Fork Feather River above Little Grass Valley Reservoir---	842
Little Grass Valley Reservoir near La Porte-----	843
South Fork Feather River below Little Grass Valley Dam-----	844
South Fork Feather River below diversion dam, near Strawberry Valley-----	845
Lost Creek above Sly Creek Reservoir-----	846
Sly Creek Reservoir near Strawberry Valley-----	847
Oroville-Wyandotte Canal near Clipper Mills-----	848
Lost Creek near Clipper Mills-----	849
South Fork Feather River below Forbestown Dam-----	850
Miners Ranch Canal below Ponderosa Dam, near Forbestown-----	851
Bangor Canal below Miners Ranch Reservoir, near Oroville---	852
South Fork Feather River below Ponderosa Dam-----	853
Sucker Run near Forbestown-----	854
North Fork Feather River:	
Lake Almanor at Prattville-----	856
North Fork Feather River near Prattville-----	857
Butt Creek below Almanor-Butt Creek tunnel, near Prattville--	858
Indian Creek (head of East Branch of North Fork Feather River):	
Indian Creek near Boulder Creek Guard Station near Taylorsville-----	859
Little Grizzly Creek near Genesee-----	860
Indian Creek near Taylorsville-----	861
Indian Creek near Crescent Mills-----	862
Mill Creek near Quincy-----	863
Spanish Creek above Blackhawk Creek, at Keddle-----	864
Bucks Creek:	
Bucks Lake near Bucks Lodge-----	865
North Fork Feather River at Pulga-----	866
West Branch Feather River near Paradise-----	867
Feather River at Oroville-----	868
Feather River near Gridley-----	870
Honcut Creek:	
North Honcut Creek near Bangor-----	871
South Honcut Creek near Bangor-----	872
Feather River at Yuba City-----	873
Middle Yuba River (head of Yuba River):	
Reservoirs in Feather River basin-----	874
Jackson Meadows Reservoir near Sierra City-----	876
Middle Yuba River below Jackson Meadows Dam, near Sierra City--	877
Milton-Bowman tunnel outlet near Graniteville-----	878

	Page
Gaging-station records--Continued	
Sacramento River basin--Continued	
Feather River--Continued	
Middle Yuba River near Camptonville-----	879
Middle Yuba River above Oregon Creek, near North San Juan-----	880
Oregon Creek near North San Juan-----	881
North Yuba River below Goodyears Bar-----	882
Slate Creek:	
Slate Creek tunnel near Strawberry Valley-----	883
Slate Creek below diversion dam, near Strawberry Valley-----	884
Colgate powerplant near French Corral-----	885
North Yuba River below New Bullards Bar Dam, near North	
San Juan-----	886
South Yuba River near Cisco-----	887
Fordyce Creek below Fordyce Dam near Cisco-----	888
Lake Spaulding near Emigrant Gap-----	889
Drum Canal at intake near Emigrant Gap-----	890
Drum Canal above Drum Forebay, near Blue Canyon-----	891
South Yuba Canal near Emigrant Gap-----	892
South Yuba River at Langs Crossing, near Emigrant Gap-----	893
Canyon Creek:	
Bowman Lake near Graniteville-----	894
Bowman-Spaulding Canal intake near Sierra City-----	895
Bowman-Spaulding Canal at Jordan Creek siphon venturi,	
near Emigrant Gap-----	896
Canyon Creek below Bowman Lake-----	897
South Yuba River near Washington-----	898
Poorman Creek near Washington-----	899
South Yuba River at Jones Bar, near Grass Valley-----	900
Yuba River at Englebright Dam-----	901
Deer Creek near Smartville-----	902
Dry Creek near Browns Valley-----	903
Yuba River near Marysville-----	904
Bear River:	
Boardman Canal near Emigrant Gap-----	905
Dutch Flat No. 1 Powerplant near Dutch Flat-----	906
Dutch Flat No. 2 flume near Blue Canyon-----	907
Bear River below Drum afterbay near Blue Canyon-----	908
Chicago Park flume near Dutch Flat-----	909
Bear River below Dutch Flat afterbay near Dutch Flat-----	910
Rollins Reservoir near Colfax-----	912
Bear River Canal intake near Colfax-----	913
Bear River below Rollins Dam, near Colfax-----	914
Bear River near Auburn-----	915
New Camp Far West Reservoir near Wheatland-----	916
Bear River near Wheatland-----	917
Feather River at Nicolaus-----	918
Sacramento River at Verona-----	919
Sacramento Weir spill to Yolo Bypass near Sacramento-----	920

	Page
Gaging-station records--Continued	
Sacramento River basin--Continued	
North Fork American River:	
Onion Creek:	
Onion Creek tributary No. 3 near Soda Springs-----	921
Onion Creek tributary No. 2 near Soda Springs-----	922
Onion Creek tributary No. 1 near Soda Springs-----	923
Onion Creek near Soda Springs-----	924
North Fork of North Fork American River:	
Lake Valley Canal near Emigrant Gap-----	925
Shirrtail Creek:	
North Shirrtail Creek:	
Forbes Creek:	
North Fork Forbes Creek near Dutch Flat-----	926
North Shirrtail Creek near Dutch Flat-----	927
North Fork American River at North Fork Dam-----	928
Middle Fork American River:	
French Meadows Reservoir near Foresthill-----	930
Middle Fork American River at French Meadows-----	931
Duncan Creek near French Meadows-----	932
Duncan Creek below diversion dam near French Meadows-----	933
Middle Fork American River above Middle Fork powerhouse, near Foresthill-----	934
Middle Fork American River below interbay dam, near Foresthill-----	935
Rubicon River:	
Rubicon-Rockbound tunnel near Meeks Bay-----	936
Rubicon River at Rubicon Springs, near Meeks Bay-----	937
Little Rubicon River:	
Buck Island Lake:	
Buck-Loon tunnel near Meeks Bay-----	938
Hell Hole Reservoir near Meeks Bay-----	939
Rubicon River below Hell Hole Dam near Meeks Bay-----	940
South Fork Rubicon River:	
Gerle Creek:	
Loon Lake near Meeks Bay-----	941
Gerle Creek below Loon Lake Dam, near Meeks Bay-----	942
Robbs Peak Powerplant near Kyburz-----	943
South Fork Rubicon River below Gerle Creek, near Georgetown-----	944
Pilot Creek above Stumpy Meadows Reservoir-----	945
Pilot Creek below Mutton Canyon, near Georgetown-----	946
Long Canyon Creek:	
South Fork Long Canyon Creek diversion tunnel, near Volcanoville-----	947
North Fork Long Canyon Creek diversion tunnel, near Volcanoville-----	948
Long Canyon Creek near French Meadows-----	949
Rubicon River near Foresthill-----	950
North Fork of Middle Fork American River near Foresthill-----	951
Middle Fork American River near Foresthill-----	952
Canyon Creek near Georgetown-----	953
Middle Fork American River near Auburn-----	954

	Page
Gaging-station records--Continued	
Sacramento River basin--Continued	
North Fork American River--Continued	
South Fork American River:	
Echo Lake conduit near Phillips-----	956
Pyramid Creek near Phillips-----	957
Silver Lake Outlet (head of Silver Fork of South Fork	
American River) near Kirkwood-----	958
Twin Lakes Outlet near Kirkwood-----	959
South Fork American River near Kyburz-----	960
Alder Creek near White Hall-----	962
Silver Creek:	
Jones Fork Silver Creek:	
Picket Pen Creek near Kyburz-----	963
Union Valley Reservoir near Riverton-----	964
South Fork Silver Creek:	
Ice House Reservoir near Kyburz-----	965
South Fork Silver Creek near Ice House-----	967
Silver Creek below Camino diversion dam-----	968
South Fork American River near Camino-----	969
South Fork American River near Placerville-----	970
South Fork American River near Lotus-----	971
American River:	
Folsom Lake near Folsom-----	972
American River at Fair Oaks-----	973
Natomas East Main Drainage Canal:	
Dry Creek:	
Dry Creek tributary near Roseville-----	974
Arcade Creek near Del Paso Heights-----	975
Sacramento River at Sacramento-----	976
Yolo Bypass:	
Clear Lake (head of Cache Creek):	
Adobe Creek near Kelseyville-----	977
Highland Creek above Highland Creek Dam-----	978
Highland Creek below Highland Creek Dam-----	979
Burns Valley Creek near Clearlake Highlands-----	980
Seigler Creek at Lower Lake-----	981
Kelsey Creek near Kelseyville-----	982
Clear Lake at Lakeport-----	983
Cache Creek near Lower Lake-----	984
North Fork Cache Creek near Lower Lake-----	985
Bear Creek near Rumsey-----	986
Cache Creek above Rumsey-----	987
Cache Creek near Capay-----	988
Cache Creek at Yolo-----	989
Yolo Bypass near Woodland-----	990
Putah Creek:	
Dry Creek near Middletown-----	991
Putah Creek near Guenoc-----	992
Capell Creek:	
Lake Berryessa near Winters-----	993
Putah Creek near Winters-----	994
Pleasants Creek near Winters-----	995

CONTENTS

XVII

	Page
Gaging-station records--Continued	
Discharge of partial-record stations and miscellaneous sites-----	996
Crest-stage partial record stations-----	996
Measurements at miscellaneous sites-----	997
Index-----	999

ILLUSTRATIONS

	Page
Figure 1.--Map showing runoff for the 1967 water year-----	499
2-10. Schematic diagrams showing diversions and storage in--	
2. Kings River basin-----	591
3. San Joaquin River basin-----	611
4. Tuolumne River basin-----	679
5. Stanislaus River basin-----	704
6. Mokelumne River basin-----	736
7. Pit and McCloud river basins-----	765
8. South Fork Feather River basin-----	841
9. North Fork Feather River basin-----	855
10. Yuba River basin-----	875
11. Middle Fork American and Rubicon river basins-----	929
12. South Fork American River basin-----	955

WATER RESOURCES DATA FOR CALIFORNIA, 1967

Part 1. SURFACE WATER RECORDS

INTRODUCTION

The surface-water records for the 1967 water year for gaging stations, partial-record stations, and miscellaneous sites within California are given in this report. For convenience, also included are records for a few pertinent gaging stations in bordering States. The records were collected and computed by the Water Resources Division of the U.S. Geological Survey, under the direction of R. Stanley Lord, district chief, Menlo Park, Calif.

Through September 30, 1960, the records of discharge and stage of streams and contents and stage of lakes or reservoirs were published in an annual series of U.S. Geological Survey water-supply papers entitled "Surface Water Supply of the United States." Since 1951 there have been 20 volumes in the series; each volume covered an area whose boundaries coincided with those of certain natural drainage areas. The records in California were contained in parts 9, 10, and 11 of that series.

Beginning with the 1961 water year, streamflow records and related data are being released by the Geological Survey in annual reports on a State-boundary basis. Distribution of these basic-data reports is limited and is made primarily for local needs. The records later will be published in Geological Survey water-supply papers at 5-year intervals. These water-supply papers will show daily discharge and will be compiled for the same geographical areas used for the annual series.

COOPERATION

In California the work was done under cooperative agreements with:

California Department of Water Resources, W. E. Warne, director; succeeded by William R. Gianelli.

Alameda County Flood Control and Water Conservation District, Paul E. Lanferman, engineer-manager.

Alameda County Water District, M. P. Whitfield, general manager.

Bolinas Harbor District, Gene McDaniel, president.

Calaveras County Water District, T. Stanley Edwards, secretary-manager.

Coachella Valley County Water District, Lowell O. Weeks, general manager-chief engineer.

Contra Costa County Flood Control and Water Conservation District, C. C. Rich, deputy chief engineer.

Lake County Flood Control and Water Conservation District, Williard D. Hansen, manager.

Montecito County Water District, Delbert D. Smith, general manager.

Monterey County Flood Control and Water Conservation District, Loran Bunte, Jr., district engineer.

Santa Clara County Flood Control and Water District, Donald K. Currilin, manager-counsel.

Orange County Flood Control District, H. G. Osborne, chief engineer.

Riverside County Flood Control and Water Conservation District, John W. Bryant, chief engineer.

San Benito County Water Conservation and Flood Control District, Ernest E. Ricotti, manager.

San Luis Obispo County Flood Control and Water Conservation District, Robert H. Born, county hydraulic engineer.

Santa Barbara County Water Agency, Curtis Tunnell, chairman; succeeded by Francis H. Beattie.

Santa Cruz County Flood Control and Water Conservation District, Warren M. Harrison, director of public works.

San Mateo County, Don S. Wilson, County Engineer and Road Commissioner.

San Diego (city), R. E. Graham, director of utilities.

Santa Barbara City Water Department, Neil Mendenall, superintendent.

Antelope Valley-East Kern Water Agency, W. G. Spinarski, manager.

East Bay Municipal Utility District, J. S. Harnett, chief engineer and assistant general manager.

Georgetown Divide Public Utility District, J. E. Christensen, manager.

Imperial Irrigation District, R. F. Carter, general manager.

San Bernardino Valley Water Conservation District, E. F. Dibble, engineer and secretary.

Santa Maria Valley Water Conservation District, L. H. Adam, president.

Ventura River Municipal Water District, Robert McKinney, general manager and chief engineer.

Assistance in the form of funds or services was given by the Corps of Engineers, U.S. Army; U.S. Navy; Bureau of Reclamation and National Park Service, U.S. Department of the Interior; Forest Service, U.S. Department of Agriculture; and the city and county of San Francisco.

The following organizations and individuals aided in collecting records: Pacific Power and Light Co., Bear Valley Mutual Water Co., California American Water Co., Fontana Union Water Co., Irvine Ranch, Kings River Water Association, Los Angeles City Department of Water and Power, Los Angeles County Flood Control District, Rancho California, Pacific Gas and Electric Co., Placer County Water Agency, Sacramento Municipal Utility District, Southern California Edison Co., Kern County Land and Water Co., United Water Conservation District, Ventura County Flood Control District, Helix, Madera, Merced, Modesto, Nevada, Serrano and Carpenter, Turlock, Oakdale, Oroville-Wyandotte, South San Joaquin, Vista, and Woodbridge Irrigation Districts, and Yuba County Water Agency.

DEFINITION OF TERMS AND ABBREVIATIONS

The terms of streamflow and other hydrologic data, as used in this report, are defined as follows:

Gaging station is a particular site on a stream, canal, lake, or reservoir where systematic observations of gage height or discharge are obtained. When used in connection with a discharge record, the term is applied only to those gaging stations where a continuous record of discharge is obtained.

Hydrologic bench mark is an area or basin in which the hydrologic regimen will likely be governed solely by natural conditions. Such a basin provides a reference for separating the effects of cultural changes in other basins with similar climate, physiography, and geology.

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

Cubic foot per second (cfs) is the rate of discharge of a stream whose channel is 1 square foot in cross-sectional area and whose average velocity is 1 foot per second.

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

Runoff in inches (in.) shows the depth to which the drainage area would be covered if all the runoff for a given time period were uniformly distributed on it.

Acre-foot (ac-ft) is the quantity of water required to cover an acre to the depth of 1 foot and is equivalent to 43,560 cubic feet.

Cfs-day is the volume of water represented by a flow of 1 cubic foot per second for 24 hours. It is equivalent to 86,400 cubic feet, 1.983471 acre-feet, or 646,317 gallons, and represents a runoff of 0.0372 inch from 1 square mile.

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

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

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.

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

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

DOWNSTREAM ORDER AND STATION NUMBERS

Stations are listed in the same downstream order used in the water-supply papers. Records are listed in a downstream direction along the main stem with all stations on a tributary entering above a main-stem station listed before the station. If a tributary enters between two main-stem stations, it is listed between them. A similar order is followed listing stations on first rank, second rank, and other ranks of tributaries. To indicate the rank of any tributary on which a gaging station is situated and the stream to which it is immediately tributary, each indentation in the listing of gaging stations in the table of contents of this report represents one rank. This downstream order and system of indentation shows which gaging stations are on tributaries between any two stations on a main stem and the rank of the tributary on which each gaging station is situated.

As an added means of identification, each gaging station and partial-record station has been assigned a station number. The numbers have been assigned in the same downstream order used in the annual series of water-supply papers. In assigning station numbers, no distinction is made between partial-record and continuous-record gaging stations, so that the number for a partial-record station indicates downstream order position in a list made up of both types of stations. Gaps are left in the numbers to allow for new stations that may be established; hence, the numbers are not consecutive.

The complete 8-digit number for each station, such as 11-1208.00 includes the part number "11" plus a 6-digit number. In this report, the nonessential zeros are not shown. For example, the complete number 11-1208.00 would appear as 11-1208, just to the left of the station name. In this report, the records are listed in downstream order by parts. All records for a drainage basin encompassing more than one State could be arranged in downstream order by assembling pages from the various State reports by station number.

EXPLANATION OF DATA

The base data collected at gaging stations consist of records of stage and measurements of discharge. In addition, observations of factors affecting the stage-discharge relation, weather records, and other information are used to supplement base data in determining the daily flow. Records of stage are obtained from a graphic water-stage recorder that gives a continuous chart of the fluctuations from a digital recorder that produces a tape punched at 15-minute intervals or from direct readings on a nonrecording gage. Measurements of discharge are made with a current meter by the general methods adopted by the Geological Survey on the basis of experience in stream gaging since 1888. These methods are described in Water-Supply Paper 888 and are also outlined in standard textbooks on the measurement of stream discharge.

Rating tables giving the discharge for any stage are prepared from stage-discharge relation curves defined by discharge measurements. If extensions to the rating curves are necessary to define the extremes of discharge, they 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 or weirs), velocity-area studies, and logarithmic plotting. The application of the daily mean gage height to those rating tables gives the daily mean discharge, from which the monthly and the yearly mean discharge are computed. If the stage-discharge relation is subject to change because of frequent or continual change in the physical features that form the control, the daily mean discharge is determined by shifting-control method, in which correction factors, based on individual discharge measurements and notes by engineers and observers, are used in applying the gage heights to the rating tables.

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

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

For some gaging stations there are periods when no gage-height record is obtained or the recorded gage height is so faulty that it cannot be used to compute the daily discharge. This can happen when the recorder stops or otherwise fails to operate properly, when intakes are plugged, or when the float is held by ice. For such periods the daily discharges are estimated on the basis of recorded range in stage, adjacent good record, discharge measurements, weather records, and comparison with station records from the same or nearby basins.

The data in this report generally comprise a description of the station and a table showing the daily discharge and monthly and yearly discharge of the stream. Records are published for the water year which begins October 1 and ends September 30.

The description of the station gives the location, drainage area, records available, type and history of gages, average discharge, extremes of discharge, and general remarks. The location of the gaging station and the drainage area are obtained from the most accurate maps available. Under "Records available" are given the periods for which there are published records for the present station or for generally equivalent stations. Under "Gage" are given the type of gage currently in use and the datum of the gage above mean sea level and a condensed history of the types, locations, and datums of previous gages used during the period of records available. The references to "datum of 1929" and adjustments of other years are to the datum and adjustments of the U.S. Coast and Geodetic Survey. Under "Average discharge" is given the average discharge for the number of years indicated. It is not given for stations having fewer than 5 complete years of record or for stations where changes in water development cause the figure to have little significance. Under "Extremes" are given the maximum discharge and gage height; the minimum discharge if there is little or no regulation; the minimum daily discharge if there is extensive regulation (also the minimum discharge if useful); and the

minimum gage height if it is significant. In the first paragraph, the data given are for the complete current water year unless otherwise specified. In the second paragraph, the data given are for the periods of record within the calendar year dates in the heading (not necessarily those for the complete years indicated by the heading dates). Reliable information concerning major floods that have occurred outside the period of record are given in the third or last paragraph under "Extremes." Unless otherwise qualified, the maximum discharge corresponds to the crest stage obtained by use of a water-stage recorder, a crest-stage indicator, or a nonrecording gage read at the time of the crest. If the maximum gage height did not occur at the same time as the maximum discharge, it is given separately. Information pertaining to the accuracy of the records and to conditions which affect the natural flow at the gaging station is given under "Remarks."

The daily table gives the discharge corresponding to the daily mean gage height, unless the discharge changes greatly during a day. For days having large or rapid changes, the discharge is computed by averaging the mean discharges for several parts of the day. For digital recorders, the daily mean discharge is the average of the discharges at each punched reading. For stations equipped with nonrecording gages, the daily discharge corresponds to once-daily readings of the gage or to the mean of twice-daily readings; but for periods of rapidly changing stage the discharge is determined from a gage-height graph based on gage readings.

In the monthly summary below the daily table, the "Total" is the sum of the daily figures; it is the total cfs-days for the month. The "Mean" is the average flow in cubic feet per second during the month. Discharge for the month is expressed in acre-feet ("Ac-ft"). For three stations only discharge for the month is expressed in cubic feet per second per square mile ("Cfsm"), in inches ("In."), and in acre-feet ("Ac-ft"). For those stations equipped with a tipping-bucket rain gage, precipitation, in inches, is given for the month.

In the yearly summary below the monthly summary, the figures of maximum are the maximum daily discharges, not the momentary discharges when the water was at crest stage. Likewise, the minimums in this summary are the minimum daily discharges.

Peak discharges and the times of their occurrence and corresponding gage heights for most stations are listed below the table of daily and monthly discharge. All independent peaks above the selected base are given. The base discharge, which is given in parentheses, is selected so that an average of about three peaks a year can be presented. Peak discharges are not published for any stream for which the peaks are subject to substantial control by man. Time of day is expressed in 24-hour local standard time, for example, 12:30 a.m. is 0030 and 1:30 p.m. is 1330 hours.

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

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

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 interpretation of records.

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

For most gaging stations equipped with digital recorders the figures of mean daily discharge are shown to the nearest hundredth for discharges less than 1 cfs. At graphic recording stations nonsignificant zeros are added to the mean daily discharges which are less than 1 cfs. This has been done as a matter of uniformity in the computer program and should not be construed to indicate an accuracy greater than that used in the past.

Discharge at some stations, as indicated by the monthly mean, may vary widely from natural runoff, owing to diversion, consumption, regulation by storage, increase or decrease in evaporation due to artificial causes or to other factors. Evaporation from a reservoir is not included in the adjustments for changes in reservoir contents, unless it is so stated. Even at those stations where adjustments are made, large errors in computed runoff may occur when large negative adjustments are made or when evaporation is large in comparison with the observed discharge.

OTHER DATA AVAILABLE

Data from partial-record stations and measurements made at miscellaneous sites are given at the end of this report. Occasionally, discharge measurements are made within a short time period to investigate the seepage gains or losses along a reach of a stream or to determine the low-flow characteristics of an area. Such measurements are also at the end of this report. Data for most crest-stage partial-record stations in California are not included in this report. They are published separately in an annual report, "Floods from Small Drainage Areas," copies of which may be obtained from the district office.

More detailed information than that published for most of the gaging stations is on file in the district office; information, such as discharge measurements and recorder charts or nonrecording-gage readings. Most gaging-station records in the State through 1958 have been analyzed with an electronic computer to give: (1) The number of days in each year that the daily discharge was between selected limits (duration tables); (2) the lowest mean discharge for selected numbers of consecutive days in each year; and (3) the highest mean discharge for selected numbers of consecutive days in each year.

At or near some gaging stations, water-quality records also are collected. Data are obtained on the chemical quality of the stream water, on water temperature, on suspended-sediment concentration, and on the particle-size distribution of suspended sediment and bed material. These data are given in part 2 of this report. Under the "Remarks" paragraph of the gaging-station description, reference is made to water-quality records collected on a regular basis.

HYDROLOGIC CONDITIONS

Drought conditions which generally prevailed at the end of the previous water year continued through October with streamflow generally deficient or well below normal. Generally heavy rains in November ended the comparatively hot, dry season and increased runoff to well above normal in the north-coastal area, excessive in the Sierra Nevada, and near normal in southern California. Violent storms accompanied by the greatest 24-hour precipitation of record for November caused considerable damage in Los Angeles. A warm, intense storm December 2-6 produced heavy rain throughout the State, but with particular heavy concentrations December 4-6 in the Buena Vista Lake and Tulare Lake basins and the central California coast between Monterey Bay and the Santa Barbara area extending inland to Owens Valley east of the Sierra Nevada. The Kaweah-Tule-Kern River basins, east of Porterville and Bakersfield, were particularly hard hit. Rainfall was as much as 19 inches in 27 hours. The resulting flood peaks in the upper Tule, Kern, and Kaweah basins were substantially above the previous recorded maximums, and may have exceeded the

legendary floods of 1867. Damage was severe in the Tule, Kern, and Kaweah headwaters. Reservoirs downstream stored the floodflows and prevented otherwise great losses in the populated areas below them. A comprehensive flood report is being prepared. Recordbreaking floods also occurred in the upper Salinas River and Santa Maria River basins, west-side San Joaquin Valley near Coalinga, Kings River basin, and west-side Owens Valley. Floodwaters contained by Nacimiento, San Antonio, and Salinas Reservoirs prevented larger areas of Salinas Valley from being flooded. In the northern part of the State the runoff was high, but there was no flooding. Storms continued throughout the first half of December, but the last half was comparatively dry. Runoff was excessive for December throughout most of the State and well above normal in the north-coastal area. The first 3 weeks of January was comparatively dry, but general heavy rains occurred during the last week. Runoff was excessive for January throughout the State. In February, in contrast to the previous 2 months, precipitation was below normal and runoff decreased to below normal in the north, but was above normal in the south and excessive in a small area draining the eastern slope of the Sierra Nevada. March, however, was wet with a series of cold-type storms with a heavy accumulation of snow at elevations as low as 1,000 feet in the north-coastal area. Contents of major reservoirs were well above average. Releases were made from some reservoirs to maintain flood-control storage space in anticipation of high runoff from early melt of the above-normal snowpack. Streamflow in March was excessive in the Sierra Nevada, above normal in central and southern California, and near normal in the north-coastal area. The normal snowmelt was delayed in April and the first part of May because of below-normal temperatures. Precipitation, however, was generally above normal producing a near-record snowpack in the Sierra Nevada. Above-normal temperatures during the latter part of May caused rapid snowmelt and near flooding on most streams from the Sierra Nevada, but the flood threat was eased by cold storms during the last few days of the month. Below-normal temperatures through the first half of June again slowed the normal snowmelt from the Sierra Nevada and, although temperatures rose during the latter half of the month, the danger of major flooding was past. Meltwater from the above-normal snowpack sustained higher than normal runoff from the higher elevations and streamflow from the Sierra Nevada was excessive from May through the end of the water year. In contrast, in the extreme southern part of the State the streamflow was deficient from May through the end of the water year.

Figure 1 shows the runoff for the 1967 water year, in percentage of the 1930-60 median. The runoff from these index streams averaged almost $2\frac{1}{2}$ times the median for the State as a whole. At individual index stations runoff ranged from slightly below normal in the extreme north-coastal area to more than five times the median in the south-coastal area.

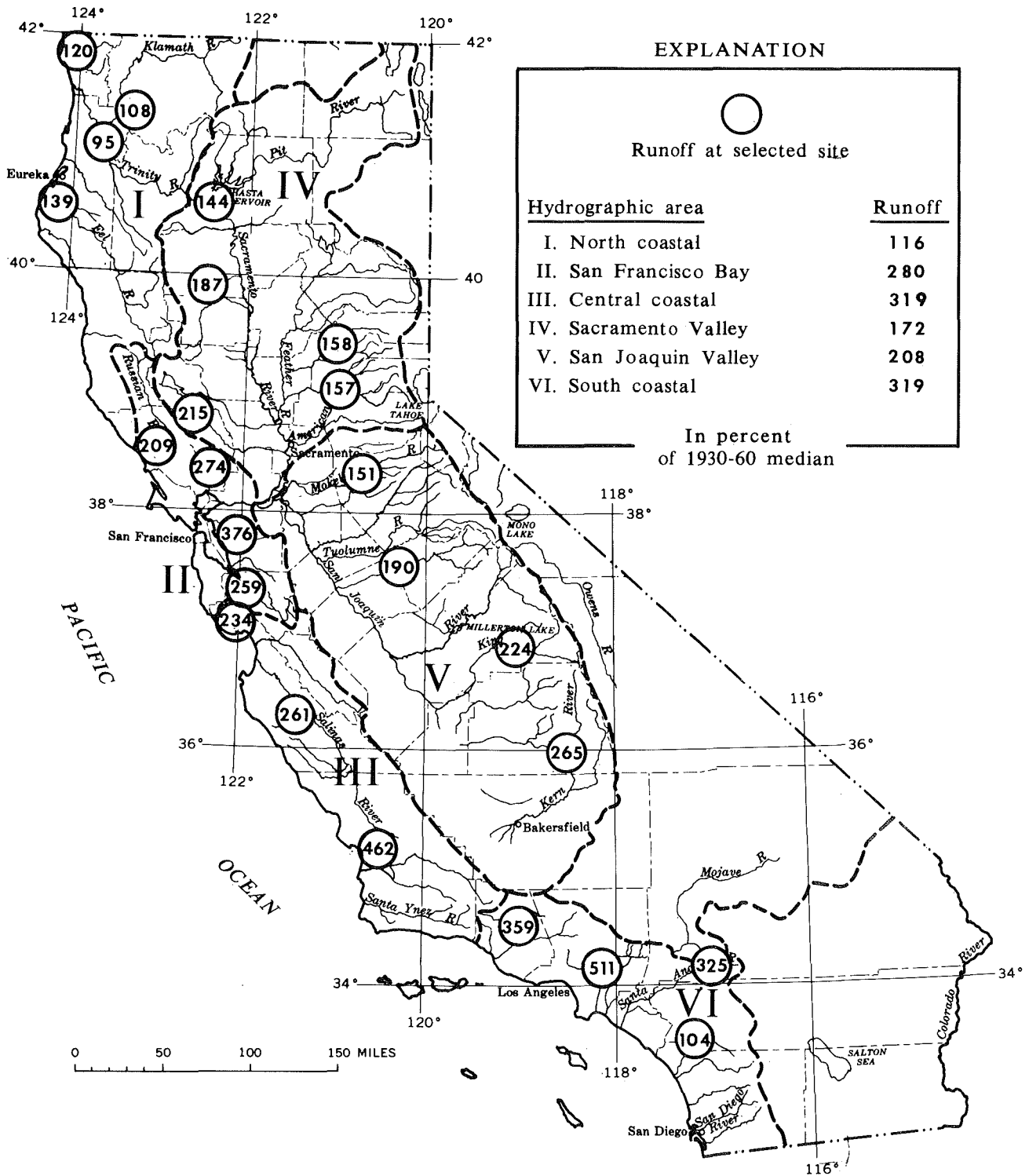


Figure 1.--Runoff for the 1967 water year.

WALKER LAKE BASIN

10-2890. VIRGINIA CREEK NEAR BRIDGEPORT, CALIF.

LOCATION.--Lat 38°11'30", long 119°12'30", near center of W $\frac{1}{2}$ sec.22, T.4 N., R.25 E., on right bank 1.25 miles downstream from Clearwater Creek, 3 miles upstream from mouth, and 4.25 miles southeast of Bridgeport.

DRAINAGE AREA.--63.6 sq mi.

RECORDS AVAILABLE.--October 1953 to September 1967.

GAGE.--Water-stage recorder. Altitude of gage is 6,700 ft (from topographic map).

AVERAGE DISCHARGE.--14 years, 15.2 cfs (11,000 acre-ft per year).

EXTREMES.--Maximum discharge during year, 553 cfs Mar. 16 (gage height, 5.88 ft); minimum, 3.2 cfs Nov. 9, but may have been less during periods of ice effect.

1953-67: Maximum discharge, 1,300 cfs Dec. 23, 1955 (gage height, 8.40 ft), from rating curve extended above 170 cfs on basis of slope-area measurement of peak flow; minimum, 1.0 cfs Aug. 18, 1960, July 28, 1961.

REMARKS.--Records good except those for winter months, which are poor. Flow partly regulated by Virginia Lakes and other lakes near headwaters. Diversions for irrigation of 3,000 acres above station.

DISCHARGE, IN CUBIC FEET PER SECOND. WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.8	6.4	12	8.0	11	16	16	16	55	108	39	22
2	5.8	6.4	13	7.4	11	21	18	20	49	111	40	23
3	6.1	7.0	11	7.4	11	20	17	23	46	112	38	24
4	6.1	6.7	14	7.8	10	18	18	23	47	111	36	37
5	6.1	6.7	22	7.8	11	15	16	23	50	111	38	33
6	6.4	6.7	45	6.4	9.4	16	16	24	45	107	36	27
7	6.4	7.0	33	6.1	9.4	17	16	36	49	101	33	24
8	6.4	7.4	28	6.7	9.4	18	16	53	55	84	28	23
9	6.4	6.7	23	6.7	11	20	18	65	59	71	24	22
10	6.4	8.2	18	6.7	11	20	18	55	61	64	22	22
11	6.4	6.7	14	7.4	11	17	17	41	64	60	23	20
12	6.4	6.7	12	7.8	11	15	16	35	64	59	24	18
13	6.4	6.7	13	7.8	12	14	16	34	62	66	26	18
14	6.4	6.4	11	7.4	13	16	18	45	58	82	29	18
15	6.7	6.4	9.0	7.4	10	18	18	65	58	82	29	17
16	6.4	9.0	8.6	7.4	10	199	14	92	65	73	28	17
17	6.4	7.8	9.0	6.1	11	75	16	102	67	71	28	16
18	6.4	7.1	8.2	6.4	11	38	17	115	72	65	28	21
19	6.4	7.8	7.8	7.0	12	29	16	114	85	60	27	20
20	6.4	14	7.8	7.4	10	31	15	115	83	53	27	18
21	6.4	9.0	7.0	13	9.4	31	15	122	83	46	29	17
22	6.7	11	6.4	9.8	10	30	14	121	90	45	27	17
23	7.0	8.6	7.4	9.4	10	31	14	121	86	45	25	18
24	6.4	8.2	6.7	9.4	11	26	14	109	83	45	24	17
25	6.4	7.4	6.7	9.0	12	22	14	99	82	46	26	17
26	6.7	9.4	6.7	13	11	20	16	94	85	45	26	18
27	6.7	9.4	6.4	15	11	26	18	101	87	44	25	16
28	6.7	22	6.7	13	13	33	18	90	90	45	24	16
29	6.4	26	7.4	14	-----	24	16	82	91	61	23	16
30	6.4	14	8.6	14	-----	20	14	75	98	54	22	16
31	6.7	-----	8.0	13	-----	18	-----	69	-----	43	20	-----
Total	198.7	272.8	397.4	275.7	302.6	914	485	2,179	2,069	2,170	874	608
Mean	6.41	9.09	12.8	8.89	10.8	29.5	16.2	70.3	69.0	70.0	28.2	20.3
Max	7.0	26	45	15	13	199	18	122	98	112	40	37
Min	5.8	6.4	6.4	6.1	9.4	14	14	16	45	43	20	16
Ac-ft	394	541	788	547	600	1,810	962	4,320	4,100	4,300	1,730	1,210

Cal yr 1966: Total 3,582.4 Mean 9.81 Max 45 Min 1.6 Ac-ft 7,100
 Wtr yr 1967: Total 10,746.2 Mean 29.4 Max 199 Min 5.8 Ac-ft 21,300

Peak discharge (base, 50 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-6	1400	3.53	56	5-22	1730	4.40	185
3-16	1315	5.88	553	7-5	0900	3.97	121
3-28	1700	3.43	60	7-13	2200	3.82	102
5-9	1900	3.78	96	7-29	2200	3.94	118
				8-4	2030	3.63	85

WALKER LAKE BASIN

501

10-2895. GREEN CREEK NEAR BRIDGEPORT, CALIF.

LOCATION.--Lat 38°10'25", long 119°14'00", in NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.29, T.4 N., R.25 E., on right bank 130 ft downstream from county road bridge, 0.1 mile upstream from diversion to Summers Creek, and 5.5 miles south of Bridgeport.

DRAINAGE AREA.--19.5 sq mi.

RECORDS AVAILABLE.--October 1953 to September 1967.

GAGE.--Digital water-stage recorder. Altitude of gage is 6,850 ft (from topographic map). Prior to July 26, 1964, graphic water-stage recorder.

AVERAGE DISCHARGE.--14 years, 27.9 cfs (20,200 acre-ft per year).

EXTREMES.--Maximum discharge during year, 351 cfs July 4 (gage height, 3.26 ft); minimum, 1.9 cfs Nov. 9. 1953-67: Maximum discharge, that of July 4, 1967; maximum gage height, 4.09 ft Feb. 25, 1962 (backwater from ice); minimum discharge, 1.4 cfs Apr. 4, 1964.

REMARKS.--Records good except those for winter months, which are fair. Flow regulated by West, Green, East, Summit, and other lakes.

DISCHARGE. IN CUBIC FEET PER SECOND. WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	4.8	3.6	9.1	7.4	10	14	12	10	80	263	104	32
2	4.5	3.6	7.6	7.4	9.6	18	14	10	70	264	104	33
3	4.5	3.6	7.1	7.2	9.3	16	13	11	66	250	101	35
4	4.3	3.6	7.0	7.0	9.0	14	14	12	71	283	98	44
5	4.5	3.6	7.5	7.5	9.6	12	12	12	75	273	91	51
6	4.5	3.3	17	6.8	8.4	12	12	14	77	240	83	44
7	4.5	3.4	23	6.4	8.2	13	12	19	83	190	75	40
8	4.5	3.6	24	6.7	8.4	14	13	28	93	152	68	33
9	4.5	3.7	19	7.2	9.7	16	14	41	101	148	62	32
10	4.5	3.9	12	7.1	9.6	15	14	34	104	137	58	31
11	4.5	3.9	13	7.2	9.6	14	13	27	101	128	56	29
12	4.3	3.6	12	7.4	9.6	12	12	24	103	129	56	28
13	4.1	3.7	11	7.2	9.8	12	12	25	101	133	55	27
14	3.8	3.4	10	7.1	10	11	12	29	93	149	56	26
15	4.0	3.3	9.0	7.1	9.0	11	12	40	96	144	54	26
16	4.0	5.9	8.0	7.1	8.8	18	12	53	105	131	51	25
17	4.0	6.1	7.6	6.8	9.6	14	12	66	109	133	46	23
18	4.0	4.5	7.8	6.4	10	16	12	77	123	126	46	26
19	4.1	4.8	7.3	6.6	10	38	12	81	144	134	44	27
20	4.8	8.0	7.0	6.8	9.0	27	13	82	136	131	46	25
21	3.5	5.1	6.8	7.1	8.4	21	11	100	145	123	47	23
22	3.7	6.5	6.4	7.7	9.0	18	13	99	152	118	43	23
23	3.7	5.6	7.2	8.9	9.0	17	11	121	147	118	41	23
24	3.7	5.3	6.6	9.0	9.6	16	11	127	141	116	40	22
25	3.8	5.0	6.4	8.6	10	16	10	125	144	115	42	22
26	3.9	5.8	6.3	8.8	9.8	17	10	120	163	116	43	21
27	3.7	6.1	6.2	9.1	10	21	11	130	202	114	40	21
28	3.7	10	6.0	9.8	12	25	10	129	267	110	38	21
29	3.7	20	6.2	11	-----	19	11	112	267	111	35	20
30	3.6	11	6.7	11	-----	15	11	101	281	106	33	19
31	3.6	-----	7.2	11	-----	14	-----	95	-----	106	32	-----
TOTAL	127.3	163.5	298.0	242.4	265.0	516	361	1,954	3,840	4,791	1,788	852
MEAN	4.11	5.45	9.61	7.82	9.46	16.6	12.0	63.0	128	155	57.7	28.4
MAX	4.8	20	24	11	12	38	14	130	281	283	104	51
MIN	3.5	3.3	6.0	6.4	8.2	11	10	10	66	106	32	19
AC-FT	253	324	591	481	526	1,020	716	3,880	7,620	9,500	3,550	1,690

CAL YR 1966: TOTAL 7,170.3 MEAN 19.6 MAX 77 MIN 3.3 AC-FT 14,220
WAT YR 1967: TOTAL 15,198.2 MEAN 41.6 MAX 283 MIN 3.3 AC-FT 30,150

WALKER LAKE BASIN

10-2903. UPPER TWIN LAKE NEAR BRIDGEPORT, CALIF.

LOCATION (revised).--Lat 38°09'15", long 119°20'58", in NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec.5, T.3 N., R.24 E., at outlet and 10 miles southwest of Bridgeport.

DRAINAGE AREA.--29.5 sq mi.

RECORDS AVAILABLE.--December 1961 to February 1964, September 1964 to September 1967.

GAGE.--Water-stage recorder. Datum of gage is project datum of U.S. Indian Irrigation Service.

EXTREMES.--Maximum contents observed during year, 2,900 acre-ft June 22, July 5, 6 (elevation, 7,209.58 ft); minimum observed, 280 acre-ft Nov. 17.

1961-67: Maximum contents observed, that of June 22, July 5, 6, 1967; minimum observed, 62 acre-ft Oct. 31, Nov. 1, 1964 (elevation, 7,200.22 ft).

No contents observed Oct. 17, 1961.

REMARKS.--Contents regulated by dam at outlet. Figures given herein represent usable contents. Usable contents, 2,070 acre-ft between elevations 7,200 (natural rim) and 7,207 ft (spillway crest).

Elevations and contents, water year October 1966 to September 1967

Date	Elevation (feet)	Contents (acre-ft)	Change in contents (acre-ft)
Oct. 11	7,201.04	291	-45
Nov. 17	7,201.00	280	-11
Dec. 21	7,206.75	1,990	+1,710
Calendar year 1966	---	---	---
Jan. 17	7,206.84	2,020	+30
Feb. 15	7,206.96	2,060	+40
March 15.	7,207.04	2,080	+20
April 13.	7,207.04	2,080	0
May 11	7,207.25	2,150	+70
May 31	7,208.54	2,560	+410
June 30	7,209.58	2,900	+340
July 31	7,208.63	2,590	-310
Aug. 31	7,207.86	2,350	-240
Sept. 30.	7,207.48	2,220	-130
Water year 1966-67	---	---	+1,880

g Contents interpolated.

10-2904. LOWER TWIN LAKE NEAR BRIDGEPORT, CALIF.

LOCATION (revised).--Lat 38°10'05", long 119°19'33", in NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.33, T.4 N., R.24 E., at outlet and 8 miles southwest of Bridgeport.

DRAINAGE AREA.--38.9 sq mi.

RECORDS AVAILABLE.--December 1961 to September 1967.

GAGE.--Water-stage recorder. Datum of gage is at project datum of U.S. Indian Irrigation Service. Prior to October 1966 at different site at same datum.

EXTREMES.--Maximum contents observed during year, 4,970 acre-ft July 19 (elevation, 7,202.25 ft); no contents observed Nov. 17 (elevation, 7,189.78 ft).
1961-67: Maximum contents, 5,270 acre-ft June 20, 1963 (elevation, 7,202.94 ft); minimum, that of Nov. 17, 1966.

REMARKS.--Contents regulated by dam at outlet and by Upper Twin Lake. Figures given herein represent usable contents. Usable contents, 4,010 acre-ft between elevations 7,190 (natural rim) and 7,200 ft (spillway crest). One transarea diversion out of Tamarack Creek into Summers Creek.

ELEVATIONS AND CONTENTS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Date	Elevation (feet)	Contents (acre-ft)	Change in contents (acre-ft)
Oct. 11	7,190.48	192	-8
Nov. 17	7,189.78	0	-192
Dec. 22	7,192.42	968	+968
Calendar year 1966	---	---	---
Jan. 17	7,194.55	1,820	+852
Feb. 15	7,198.85	3,540	+1,720
Mar. 15	7,200.59	4,260	+720
Apr. 13	7,200.50	4,220	-40
May 11	7,195.30	2,120	-2,100
May 31	---	g4,800	+2,680
July 31	7,201.73	4,750	-50
Aug. 31	7,201.34	4,580	-170
Sept. 30	7,200.84	4,360	-220
Water year 1966-67	---	---	+4,160

g Contents interpolated.

WALKER LAKE BASIN

10-2905. ROBINSON CREEK AT TWIN LAKES OUTLET, NEAR BRIDGEPORT, CALIF.

LOCATION.--Lat 38°10'20", long 119°19'25", in SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.28, T.4 N., R.24 E., on left bank a quarter of a mile downstream from Twin Lakes and 8 miles southwest of Bridgeport.

DRAINAGE AREA.--39.1 sq mi.

RECORDS AVAILABLE.--October 1953 to September 1967.

GAGE.--Digital water-stage recorder. Altitude of gage is 7,050 ft (from topographic map). Prior to July 27, 1964, graphic water-stage recorder.

AVERAGE DISCHARGE.--14 years, 56.8 cfs (41,120 acre-ft per year), unadjusted.

EXTREMES.--Maximum discharge during year, 484 cfs July 2; maximum gage height, 4.61 ft, July 4; minimum daily discharge, 0.10 cfs Feb. 3-8, 15, 16, 20, 21.

1953-67: Maximum discharge, 492 cfs June 20, 1963; maximum gage height, that of July 4, 1967; no flow for many days in some years.

Maximum discharge known, 660 cfs June 21, 1911 (gage height, 5.2 ft), at site 2.5 miles downstream.

REMARKS.--Records good. Flow regulated by Twin Lakes.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	17	14	.40	.20	.40	.30	28	97	208	445	235	94
2	17	14	.50	.20	.20	.30	29	94	189	457	227	93
3	17	14	.50	.20	.10	.30	28	92	174	467	220	95
4	17	14	.50	.20	.10	.20	28	90	164	464	175	100
5	17	13	.50	.20	.10	.20	29	89	160	442	144	104
6	17	9.0	.40	.20	.10	.30	28	88	160	427	156	102
7	17	6.6	.40	.20	.10	.50	27	86	164	442	157	99
8	17	6.6	.40	.20	.10	.50	26	84	173	433	153	90
9	17	6.6	.40	.20	.20	1.0	25	81	183	412	146	80
10	17	6.6	.30	.20	.40	6.0	24	78	198	377	141	75
11	17	6.0	.30	.20	.40	10	23	75	212	349	137	70
12	15	6.0	.30	.20	.40	14	22	74	219	327	136	66
13	14	6.0	.30	.20	.60	18	22	73	225	325	138	64
14	14	5.0	.30	.20	.40	25	22	71	221	343	140	61
15	13	5.0	.30	.20	.10	28	22	71	217	360	141	58
16	12	5.0	.20	.20	.10	35	22	70	221	349	141	56
17	12	5.0	.20	.20	.25	42	22	70	231	338	137	55
18	12	5.0	.20	.20	.25	40	24	70	253	330	132	54
19	12	5.4	.20	.50	.25	36	25	72	287	317	130	54
20	9.5	5.8	.20	.40	.10	34	24	74	317	305	127	53
21	6.2	3.0	.20	.40	.10	31	23	77	338	284	125	52
22	5.8	.82	.20	.40	.20	30	24	80	380	264	123	51
23	7.0	.82	.20	.40	.25	31	22	80	412	252	120	50
24	8.2	.40	.20	.30	.25	27	66	82	403	243	117	49
25	9.5	.40	.20	.20	.25	26	116	88	391	241	119	48
26	10	.82	.20	.20	.25	25	111	94	388	240	123	47
27	11	.82	.20	.30	.30	25	108	135	403	240	121	46
28	12	.82	.20	.40	.30	26	105	201	421	240	116	46
29	13	.50	.20	.40	-----	26	102	242	427	248	109	46
30	14	.50	.20	.40	-----	26	100	244	430	253	103	44
31	14	-----	.20	.40	-----	29	-----	227	-----	244	98	-----
TOTAL	411.2	167.50	9.00	8.30	6.55	593.60	1,277	3,149	8,169	10,458	4,387	2,002
MEAN	13.3	5.58	.29	.27	.23	19.1	42.6	102	272	337	142	66.7
MAX	17	14	.50	.50	.60	42	116	244	430	467	235	104
MIN	5.8	.40	.20	.20	.10	.20	22	70	160	240	98	44
AC-FT	816	332	18	16	13	1,180	2,530	6,250	16,200	20,740	8,700	3,970

CAL YR 1966: TOTAL 17,745.70 MEAN 48.6 MAX 170 MIN .20 AC-FT 35,200
WAT YR 1967: TOTAL 30,638.15 MEAN 83.9 MAX 467 MIN .10 AC-FT 60,770

10-2915. BUCKEYE CREEK NEAR BRIDGEPORT, CALIF.

LOCATION.--Lat 38°14'20", long 119°19'30", in NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.4, T.4 N., R.24 E., on right bank at Buckeye Hot Springs, 0.6 mile downstream from Eagle Creek, and 5.5 miles southwest of Bridgeport.

DRAINAGE AREA.--44.1 sq mi.

RECORDS AVAILABLE.--November 1910 to September 1914 (fragmentary), October 1953 to September 1967.

GAGE.--Digital water-stage recorder. Altitude of gage is 6,900 ft (from topographic map). November 1910 to September 1914, staff gage at site half a mile downstream at different datum. Oct. 1, 1953, to Apr. 13, 1965, graphic water-stage recorder at present site and datum.

AVERAGE DISCHARGE.--15 years (1911-12, 1953-67), 57.5 cfs (41,630 acre-ft per year).

EXTREMES.--Maximum discharge during year, 772 cfs July 3 (gage height, 4.15 ft); minimum, 4.5 cfs Jan. 17, 20. 1953-67: Maximum discharge, 947 cfs Feb. 1, 1963 (gage height, 4.41 ft), from rating curve extended above 360 cfs on basis of slope-area measurement at gage height 4.00 ft and logarithmic plotting; minimum, 3.3 cfs Dec. 12, 1959, result of freezeup.

Flood of June 21, 1911, reached an observed stage of 4.8 ft (discharge not determined), site and datum then in use.

REMARKS.--Records good except those for winter months, which are poor. No regulation or diversion above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	12	12	27	19	20	30	26	21	195	575	182	70
2	12	12	23	18	18	30	25	23	171	540	177	74
3	13	12	23	19	17	28	24	25	172	639	172	78
4	12	12	21	20	17	23	24	28	186	555	162	78
5	13	11	22	21	17	20	24	28	195	544	148	81
6	13	11	56	15	17	25	23	31	191	533	138	70
7	13	12	42	16	17	27	23	44	223	485	130	66
8	13	13	33	17	17	28	22	68	244	428	122	64
9	13	11	33	18	19	30	23	90	249	388	119	62
10	13	12	25	20	22	30	23	68	246	344	119	58
11	12	12	25	22	21	28	22	54	254	333	119	55
12	12	12	21	16	24	27	22	51	262	344	117	53
13	12	12	20	15	26	26	23	52	251	371	115	52
14	12	11	20	15	26	24	23	58	243	392	115	51
15	12	12	20	15	21	21	23	76	264	363	121	50
16	12	26	20	14	22	48	22	108	276	329	112	50
17	12	15	20	13	23	54	22	144	295	325	105	49
18	12	13	20	13	23	41	23	176	342	303	110	56
19	12	13	20	13	24	35	22	190	334	282	117	53
20	12	23	20	14	21	32	21	216	330	251	103	49
21	12	13	20	15	20	31	21	266	390	238	98	47
22	13	14	20	14	21	31	21	303	408	235	95	49
23	13	13	19	13	22	30	20	330	358	225	91	48
24	12	14	17	13	25	28	21	337	370	222	95	49
25	12	13	16	12	28	27	20	350	399	225	112	47
26	12	15	16	12	27	27	21	342	326	216	94	45
27	12	15	14	14	25	28	22	330	435	208	86	44
28	12	48	14	17	30	32	21	314	462	214	81	44
29	12	63	15	20	-----	29	21	271	515	214	75	43
30	12	34	20	25	-----	27	21	251	550	200	73	43
31	12	-----	19	25	-----	28	-----	227	-----	194	72	-----
TOTAL	381	509	701	513	610	925	669	4,872	9,136	10,715	3,575	1,678
MEAN	12.3	17.0	22.6	16.5	21.8	29.8	22.3	157	305	346	115	55.9
MAX	13	63	56	25	30	54	26	350	550	639	182	81
MIN	12	11	14	12	17	20	20	21	171	194	72	43
AC-FT	756	1,010	1,390	1,020	1,210	1,830	1,330	9,660	18,120	21,250	7,090	3,330

CAL YR 1966: TOTAL 16,234 MEAN 44.5 MAX 192 MIN 11 AC-FT 32,200
WAT YR 1967: TOTAL 34,284 MEAN 93.9 MAX 639 MIN 11 AC-FT 68,000

Peak discharge (base, 100 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-28	2130	2.51	117	6-21	2400	3.66	500
12- 6	1630	2.44	102	7- 3	0030	4.15	772
5-24	2215	3.41	390	8-24	2400	2.69	144

WALKER LAKE BASIN

10-2920. SWAGER CREEK NEAR BRIDGEPORT, CALIF.

LOCATION.--Lat 38°17'00", long 119°17'50", in SE $\frac{1}{4}$ sec. 23, T.5 N., R.24 E., on right bank three-quarters of a mile downstream from Yaney Canyon and 4 miles northwest of Bridgeport.

DRAINAGE AREA.--52.8 sq mi.

RECORDS AVAILABLE.--June 1911 to September 1915 (fragmentary), October 1953 to September 1967.

GAGE.--Water-stage recorder. Altitude of gage is 6,620 ft (from topographic map). June 1911 to September 1915 staff gages at approximately same site at different datums.

AVERAGE DISCHARGE.--15 years (1911-12, 1953-67), 11.1 cfs (8,040 acre-ft per year).

EXTREMES.--Maximum discharge during year, 228 cfs May 22 (gage height, 4.60 ft); minimum, 2.2 cfs Oct. 1, but may have been less during periods of ice effect.

1911-15, 1953-67: Maximum discharge, 585 cfs Dec. 23, 1955 (gage height, 6.24 ft), from rating curve extended above 175 cfs on basis of slope-area measurement of peak flow; minimum observed, 0.50 cfs Apr. 20, 1912.

REMARKS.--Records good except those for winter months or those above 100 cfs, which are fair. Diversions for irrigation of 1,000 acres above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.7	7.4	7.8	7.4	7.8	9.4	18	14	65	30	17	12
2	5.6	7.0	8.2	7.4	6.4	11	16	15	62	30	15	14
3	5.6	7.4	7.0	7.4	7.0	10	18	18	60	27	11	15
4	5.6	7.4	5.3	7.8	7.0	8.6	18	19	60	23	14	21
5	5.8	7.4	9.8	7.0	7.4	6.1	16	20	64	22	13	20
6	5.8	7.4	14	5.0	7.0	7.8	16	21	62	21	13	16
7	5.8	7.8	9.8	5.6	7.0	8.6	17	28	60	19	11	14
8	5.8	7.8	7.4	6.7	6.7	9.4	19	42	60	19	8.9	14
9	5.8	7.0	7.4	7.0	8.2	11	20	52	62	19	8.6	13
10	6.1	8.2	9.0	7.4	8.6	11	20	43	62	19	8.6	12
11	6.1	8.2	9.0	7.4	8.6	9.8	18	37	60	18	7.2	12
12	5.8	7.8	8.6	7.8	9.0	7.8	20	33	58	18	7.2	12
13	5.8	7.8	9.0	7.8	9.8	6.7	21	33	57	18	7.9	12
14	5.8	7.8	8.6	7.8	9.8	6.5	21	38	56	19	9.3	12
15	6.4	7.8	8.2	8.2	5.8	6.3	19	53	55	22	8.3	11
16	6.7	11	8.2	8.2	6.7	39	17	70	54	26	6.6	11
17	6.7	8.6	8.6	6.7	8.2	34	19	101	54	21	7.6	11
18	6.7	7.0	8.2	6.7	8.6	27	19	112	54	19	12	14
19	6.7	6.7	8.2	8.2	7.8	23	18	122	53	18	14	12
20	7.0	9.8	8.2	9.0	5.8	21	17	130	53	16	12	12
21	7.0	6.1	7.8	10	6.4	23	18	142	51	14	13	11
22	7.4	7.8	6.4	6.4	7.0	23	18	162	48	15	14	11
23	7.4	5.8	7.0	6.1	7.8	28	17	171	46	14	14	13
24	7.4	4.7	6.1	5.0	8.2	26	17	161	44	14	14	14
25	7.4	8.2	5.6	3.7	8.2	21	15	146	42	11	15	13
26	7.4	6.1	4.7	6.4	8.2	19	15	141	37	10	15	12
27	7.4	6.7	3.5	8.2	7.8	30	16	135	35	11	14	12
28	7.4	11	3.5	9.0	8.6	35	15	115	32	12	13	12
29	7.4	11	5.0	11	-----	22	15	104	29	18	12	12
30	7.4	8.6	5.8	10	-----	19	14	85	30	19	12	12
31	7.4	-----	6.1	9.0	-----	19	-----	75	-----	18	12	-----
Total	200.3	233.3	232.0	231.3	215.4	539.0	527	2,438	1,565	580	360.2	392
Mean	6.46	7.78	7.48	7.46	7.69	17.4	17.6	78.6	52.2	18.7	11.6	13.1
Max	7.4	11	14	11	9.8	39	21	171	65	30	17	21
Min	3.7	4.7	3.5	3.7	5.8	6.1	14	14	29	10	6.6	11
Ac-ft	397	463	460	459	427	1,070	1,050	4,840	3,100	1,150	714	778

Cal yr 1966: Total 3,123.7 Mean 8.56 Max 26 Min 1.8 Ac-ft 6,200
 Wtr yr 1967: Total 7,513.5 Mean 20.6 Max 171 Min 3.5 Ac-ft 14,910

Peak discharge (base, 25 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-16	1600	3.37	97	7-15	2100	2.82	33
3-28	1415	3.12	61	7-29	1715	2.77	29
5- 8	1900	3.18	66	9- 4	1645	3.09	56
5-22	1945	4.60	228				

10-2923. BRIDGEPORT RESERVOIR TRIBUTARY NEAR BRIDGEPORT, CALIF.

LOCATION.--Lat 38°17'15", long 119°12'50", in SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.16, T.5 N., R.25 E., on left bank on upstream side of State Highway 22, half a mile upstream from Rock Springs Canyon, and 2.4 miles north of Bridgeport.

DRAINAGE AREA.--0.79 sq mi.

RECORDS AVAILABLE.--Water year 1963 (annual maximum), October 1963 to September 1967.

GAGE.--Water-stage recorder with rain-gage attachment and crest-stage gage. Altitude of gage is 6,500 ft (from topographic map). Oct. 1, 1962, to Sept. 30, 1963, crest-stage gage at same site and datum.

EXTREMES.--Maximum discharge during year, 98 cfs Mar. 16 (gage height, 10.91 ft); no flow most of the year. 1962-67: Maximum discharge, that of Mar. 16; no flow most of the time.

REMARKS.--Records good.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1				0	0	0.2	0					
2				0	0	.2	0					
3				0	0	.1	.1					
4				0	0	0	.1					
5				0	0	0	0					
6				0	0	0	0					
7				0	0	0	0					
8				0	0	0	0					
9				0	0	0	0					
10				0	0	.1	0					
11				0	0	.1	0					
12				0	0	0	0					
13				0	.2	0	0					
14				0	.1	0	0					
15				0	0	0	0					
16				0	0	35	0					
17				0	0	3.0	0					
18				0	0	1.2	0					
19				0	0	.5	0					
20				0	0	.4	0					
21				.1	0	.4	0					
22				0	0	.2	0					
23				0	0	.2	0					
24				0	.1	.1	0					
25				0	.1	.1	0					
26				0	.1	0	0					
27				0	.1	0	0					
28				0	.1	.1	0					
29				0	---	.1	0					
30				0	---	0	0					
31		---		0	---	0	---		---			---
Total	0	0	0	0.1	0.8	42.0	0.2	0	0	0	0	0
Mean	0	0	0	0.003	0.03	1.35	0.01	0	0	0	0	0
Max	0	0	0	0.1	0.2	35	0.1	0	0	0	0	0
Min	0	0	0	0	0	0	0	0	0	0	0	0
Ac-ft	0	0	0	0.2	1.6	83	0.4	0	0	0	0	0

Cal yr 1966: Total 8.00 Mean 0.002 Max 1.3 Min 0 Ac-ft 16
 Wtr yr 1967: Total 43.1 Mean 0.12 Max 35 Min 0 Ac-ft 85.2

WALKER LAKE BASIN

10-2925. BRIDGEPORT RESERVOIR NEAR BRIDGEPORT, CALIF.

LOCATION.--Lat 38°19'30", long 119°12'50", in SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.34, T.6 N., R.25 E., at Bridgeport Dam on East Walker River, 4.5 miles north of Bridgeport.

DRAINAGE AREA.--358 sq mi.

RECORDS AVAILABLE.--March 1926 to September 1967. Month-end contents only for some periods, published in WSP 1314.

GAGE.--Float gage read once daily. Datum of gage is at mean sea level.

EXTREMES.--Maximum contents during year, 42,460 acre-ft July 7 (elevation, 6,459.98 ft); minimum, 5,920 acre-ft Oct. 1 (elevation, 6,439.60 ft).

1926-67: Maximum contents, 44,580 acre-ft June 12, 1938, June 25, 26, 1958 (elevation, 6,460.7 ft); no contents during fall of 1929, 1930, 1960.

REMARKS.--Reservoir is formed by earth-fill, rock-faced dam. Storage began Dec. 8, 1923. Dam completed in November 1924. Capacity, 42,460 acre-ft between elevations 6,415 (approximate elevation of bottom of reservoir) and 6,460 ft (crest of spillway). Elevation of sill of outlet gate, 6,412 ft. No dead storage. Figures given herein represent total contents. Water is used for irrigation by Walker River Irrigation District.

COOPERATION.--Elevations and capacity table furnished by Walker River Irrigation District.

CAPACITY TABLE (ELEVATION, IN FEET, AND CONTENTS, IN ACRE-FEET)

6,439	5,440	6,448	15,470
6,440	6,240	6,452	22,580
6,442	8,080	6,456	31,570
6,445	11,380	6,460	42,460

CONTENTS, IN ACRE-FEET, AT 0800 HOURS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5,920	7,790	11,380	19,060	23,930	28,580	31,950	25,430	21,800	38,290	41,000	34,900
2	5,960	7,840	11,570	19,240	24,040	29,040	31,950	24,660	22,290	39,120	40,850	34,640
3	6,000	7,940	12,070	19,330	24,240	29,640	32,080	23,930	22,680	39,980	40,710	34,380
4	6,040	8,030	12,380	19,420	24,450	29,760	32,080	23,000	23,100	40,560	40,560	34,240
5	6,120	8,080	12,770	19,610	24,560	30,000	32,330	22,190	23,410	41,440	40,120	34,640
6	6,160	8,130	13,720	19,700	24,770	30,240	32,200	21,500	23,930	42,170	39,830	34,770
7	6,200	8,180	15,030	19,700	24,880	30,490	32,200	20,620	24,350	42,460	39,540	34,640
8	6,240	8,230	15,400	19,800	24,990	30,730	32,080	19,800	24,880	42,170	39,400	34,380
9	6,330	8,340	15,630	19,880	25,210	30,970	32,080	18,870	25,100	41,730	39,260	34,240
10	6,370	8,440	15,870	20,070	25,430	31,330	31,950	18,010	25,430	40,850	39,120	33,980
11	6,460	8,540	16,110	20,160	25,540	31,700	31,700	17,140	25,760	40,420	38,840	33,730
12	6,500	8,640	16,340	20,340	25,650	31,950	31,450	16,190	26,200	40,270	38,570	33,350
13	6,540	8,690	16,580	20,440	25,870	32,080	31,330	15,170	26,530	39,980	38,430	32,970
14	6,590	8,790	16,820	20,530	25,980	32,330	31,210	14,210	26,860	40,120	38,010	32,710
15	6,590	8,840	16,980	20,720	26,200	32,330	30,850	13,240	27,320	40,270	38,010	32,460
16	6,680	9,000	17,140	20,820	26,310	32,710	30,490	12,700	27,780	40,710	37,870	32,200
17	6,720	9,160	17,320	21,010	26,420	35,040	30,240	12,440	28,360	40,850	37,870	31,820
18	6,770	9,320	17,490	21,110	26,640	35,440	29,880	12,320	28,930	40,850	37,590	31,570
19	6,860	9,480	17,580	21,210	26,750	35,040	29,760	12,320	30,000	40,710	37,730	31,570
20	6,940	9,600	17,750	21,210	26,860	34,510	29,280	12,260	30,850	40,850	37,590	31,330
21	7,030	9,760	17,920	21,500	27,090	33,980	28,930	12,380	31,570	40,710	37,590	31,210
22	7,080	9,920	18,010	21,890	27,200	33,730	28,700	12,830	32,200	40,560	37,460	31,090
23	7,170	10,040	18,180	22,090	27,320	33,480	28,360	13,580	32,970	40,420	37,320	30,730
24	7,220	10,140	18,350	22,290	27,440	33,220	28,010	14,580	33,730	40,420	37,320	30,610
25	7,310	10,200	18,440	22,380	27,660	32,710	27,660	15,470	34,240	40,560	37,040	30,610
26	7,360	10,320	18,610	22,480	27,780	32,200	27,320	16,340	34,770	40,560	36,900	30,610
27	7,410	10,440	18,690	22,680	28,010	31,700	27,200	17,140	35,570	40,560	36,630	30,850
28	7,500	10,550	18,780	23,000	28,240	31,820	26,750	18,260	36,360	40,420	36,230	30,850
29	7,550	10,970	18,870	23,200	-----	31,820	26,420	19,330	37,040	40,560	35,960	30,730
30	7,650	11,200	18,870	23,410	-----	31,820	25,870	20,340	37,730	40,850	35,700	30,610
31	7,700	-----	18,960	23,720	-----	31,820	-----	21,110	-----	41,000	35,300	-----
(+)	6,441.62	6,444.83	6,450.12	6,452.54	6,454.61	6,456.12	6,453.53	6,451.26	6,458.35	6,459.48	6,457.45	6,455.60
(+)	+1,820	+3,500	+7,760	+4,760	+4,520	+3,580	-5,950	-4,760	+16,620	+3,270	-5,700	-4,690

Calendar year 1966 ‡ -12,610
 Water year 1967 ‡ +24,730

† Elevation, in feet, at end of month.
 ‡ Change in contents, in acre-feet.

WALKER LAKE BASIN

509

10-2930. EAST WALKER RIVER NEAR BRIDGEPORT, CALIF.

LOCATION.--Lat 38°19'40", long 119°12'50", in SW¼NE¼ sec.34, T.6 N., R.25 E., on right bank 1,500 ft downstream from Bridgeport Reservoir, 5 miles north of Bridgeport, and 10 miles upstream from Sweetwater Creek.

DRAINAGE AREA.--359 sq mi.

RECORDS AVAILABLE.--July 1911 to September 1914 (gage heights only), October 1921 to September 1967.

GAGE.--Digital water-stage recorder. Altitude of gage is 6,400 ft (from topographic map). Prior to Oct. 1, 1921, staff gage at site half a mile upstream at different datum. Oct. 1, 1921, to Feb. 21, 1924, graphic water-stage recorder at site 1 mile downstream at different datum. Feb. 22, 1924, to Sept. 30, 1931, graphic water-stage recorder and Oct. 1, 1931, to May 25, 1939, staff gage at present site at datum 2.34 ft lower. May 26, 1939, to Apr. 13, 1965, graphic water-stage recorder at present site and datum.

AVERAGE DISCHARGE.--44 years (1922-24, 1925-67), 133 cfs (96,290 acre-ft per year), unadjusted.

EXTREMES.--Maximum discharge during year, 1,360 cfs July 6 (gage height, 4.57 ft); minimum, 3.7 cfs Feb. 14, 21, 24, 25, 28.

1921-67: Maximum discharge, 1,390 cfs June 19, 1963 (gage height, 4.64 ft); maximum gage height, 4.95 ft Jan. 22, 1943 (top of surge); minimum daily discharge, 0.2 cfs Nov. 2-29, Dec. 1-22, 25-28, 1955, Jan. 17-25, 1956.

REMARKS.--Records good. Diversions for irrigation of meadow pasture lands near Bridgeport. Flow regulated by Bridgeport Reservoir.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	22	19	13	14	4.7	3.9	105	336	294	843	524	345
2	22	19	13	14	4.7	4.1	105	439	294	915	551	345
3	22	19	13	13	4.7	4.1	105	478	295	1,020	583	345
4	22	19	13	11	4.7	4.1	105	475	297	935	582	344
5	22	19	13	8.1	4.5	4.1	105	471	297	935	525	345
6	22	19	13	8.1	4.3	4.1	105	502	298	1,100	461	344
7	22	19	13	8.1	4.3	4.1	123	519	299	1,340	417	344
8	22	13	13	8.1	4.3	4.1	157	576	347	1,330	375	344
9	22	10	14	8.1	4.1	4.2	157	639	383	1,320	348	343
10	22	11	15	8.1	4.2	4.1	172	569	383	1,170	349	342
11	20	10	15	8.1	3.9	4.2	205	549	384	931	348	342
12	20	10	15	8.1	3.9	4.2	205	569	386	818	348	342
13	20	10	15	7.8	3.9	24	204	562	387	829	348	315
14	20	11	15	7.8	3.9	74	205	555	351	831	340	291
15	19	11	15	7.8	3.9	99	205	491	336	834	311	291
16	19	11	15	6.4	3.9	283	205	423	336	838	308	291
17	19	11	15	5.2	3.9	438	205	420	339	835	308	291
18	18	11	15	5.0	3.9	472	223	420	339	836	309	291
19	18	11	15	5.2	3.9	487	252	420	369	747	309	291
20	18	11	14	5.3	3.9	485	251	393	460	705	309	250
21	19	11	14	5.2	3.9	419	250	369	548	686	309	213
22	19	12	14	5.2	3.9	382	250	342	582	597	309	213
23	19	12	14	5.2	4.1	379	250	322	614	503	310	213
24	19	12	14	5.2	4.1	379	250	325	621	478	321	213
25	19	12	14	5.2	3.9	378	235	308	625	473	348	159
26	19	12	14	5.0	4.1	378	201	285	628	474	348	160
27	19	12	14	5.0	4.1	234	200	283	655	475	347	159
28	19	12	14	5.0	3.9	158	219	285	707	455	347	175
29	19	12	14	5.0	-----	158	282	288	771	447	346	174
30	19	12	14	5.0	-----	141	305	291	831	485	346	155
31	19	-----	14	5.0	-----	105	-----	292	-----	525	345	-----
TOTAL	620	393	436	223.3	115.5	5,522.3	5,841	13,196	13,456	24,710	11,629	8,270
MEAN	20.0	13.1	14.1	7.20	4.13	178	195	426	449	797	375	276
MAX	22	19	15	14	4.7	487	305	639	831	1,340	583	345
MIN	18	10	13	5.0	3.9	3.9	105	283	294	447	308	155
AC-FT	1,230	780	865	443	229	10,950	11,590	26,170	26,690	49,010	23,070	16,400

CAL YR 1966: TOTAL 44,584 MEAN 122 MAX 283 MIN 10 AC-FT 88,430
WAT YR 1967: TOTAL 84,412.1 MEAN 231 MAX 1,340 MIN 3.9 AC-FT 167,400

WALKER LAKE BASIN

10-2935. EAST WALKER RIVER ABOVE STROSNIDER DITCH, NEAR MASON, NEV.

LOCATION.--Lat 38°48'50", long 119°02'50", in NW¼SW¼ sec.14, T.11 N., R.26 E., on right bank 0.8 mile upstream from head of Strosnider ditch, 12 miles southeast of Mason, and 13.5 miles southeast of Yerington.

DRAINAGE AREA.--1,100 sq mi, approximately.

RECORDS AVAILABLE.--January 1947 to September 1967.

GAGE.--Digital water-stage recorder. Datum of gage is 4,574.10 ft above mean sea level, datum of 1929. Prior to Oct. 24, 1957, at site 400 ft upstream at datum 0.56 ft higher. Prior to July 22, 1964, graphic water-stage recorder.

AVERAGE DISCHARGE.--20 years (1947-67), 135 cfs (97,740 acre-ft per year).

EXTREMES.--Maximum discharge during year, 1,320 cfs July 9 (gage height, 6.35 ft); minimum, 18 cfs Mar. 12. 1947-67: Maximum discharge, 2,380 cfs Feb. 1, 1963 (gage height, 7.60 ft); minimum, 3.1 cfs Mar. 21, 1948; minimum daily, 3.4 cfs Mar. 21-24, 1948, Apr. 5, 1961.

REMARKS.--Records good except those for periods of no gage-height record, which are poor. Diversions for irrigation above station. Flow regulated by Bridgeport Reservoir.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	29	31	28	45	35	26	152	257	290	820	512	328
2	29	31	28	40	30	26	149	296	290	890	521	319
3	30	31	32	43	28	25	146	395	290	980	579	328
4	32	32	35	44	25	26	145	427	290	930	589	394
5	33	32	32	35	27	26	143	445	300	920	564	479
6	33	34	41	32	25	23	137	458	300	940	506	378
7	31	34	48	29	24	24	135	492	300	1,000	440	357
8	30	34	41	30	24	25	146	507	320	1,300	387	351
9	31	33	35	30	27	24	159	571	350	1,290	342	359
10	31	30	36	35	28	21	154	654	380	1,280	324	360
11	32	29	37	35	28	20	163	589	390	1,220	328	350
12	32	28	35	35	27	18	188	568	390	964	317	344
13	33	27	34	35	28	19	186	573	390	816	305	339
14	32	27	35	35	27	20	185	566	370	808	309	306
15	33	27	33	35	25	39	186	500	350	804	310	294
16	34	28	33	33	25	113	180	450	340	840	306	292
17	35	30	33	30	27	547	179	430	330	864	302	290
18	34	29	33	28	28	429	176	430	340	844	317	299
19	35	28	33	28	28	454	192	430	360	816	320	295
20	34	27	33	30	27	465	209	400	403	734	305	277
21	32	29	33	35	25	475	212	380	468	688	296	248
22	32	27	33	40	25	401	219	360	535	671	285	219
23	34	27	33	30	25	389	221	340	576	603	284	216
24	34	28	32	35	26	384	224	330	616	512	292	218
25	33	27	31	30	26	378	219	310	630	475	298	216
26	33	24	34	32	26	374	203	300	635	482	334	187
27	32	25	30	35	26	372	183	290	643	477	323	168
28	31	25	28	37	25	237	182	280	654	471	322	164
29	30	27	30	40	-----	192	200	290	697	460	325	178
30	30	30	35	40	-----	188	242	290	758	454	324	179
31	30	-----	34	40	-----	175	-----	290	-----	517	332	-----
TOTAL	994	871	1,048	1,081	747	5,935	5,415	12,898	12,985	24,870	11,298	8,732
MEAN	32.1	29.0	33.8	34.9	26.7	191	181	416	433	802	364	291
MAX	35	34	48	45	35	547	242	654	758	1,300	589	479
MIN	29	24	28	28	24	18	135	257	290	454	284	164
AC-FT	1,970	1,730	2,080	2,140	1,480	11,770	10,740	25,580	25,760	49,330	22,410	17,320

CAL YR 1966: TOTAL 39,010 MEAN 107 MAX 256 MIN 24 AC-FT 77,380
WAT YR 1967: TOTAL 86,874 MEAN 238 MAX 1,300 MIN 18 AC-FT 172,300

Note.--No gage-height record Jan. 9 to Feb. 8, May 14 to June 20, June 30 to July 8.

10-2955. LITTLE WALKER RIVER NEAR BRIDGEPORT, CALIF.

LOCATION.--Lat 38°21'30", long 119°26'30", in NW¼NW¼ sec.22, T.6 N., R.23 E., on right bank three-quarters of a mile north of Sonora Junction, 1.5 miles upstream from mouth, and 14 miles northwest of Bridgeport.

DRAINAGE AREA.--63.0 sq mi.

RECORDS AVAILABLE.--April to August 1910, October 1944 to September 1967. Prior to October 1958, published as East Fork West Walker River near Bridgeport.

GAGE.--Digital water-stage recorder. Altitude of gage is 6,790 ft (from topographic map). April to August 1910, staff gage at site 1 mile upstream at different datum. Dec. 2, 1944, to July 25, 1964, graphic water-stage recorder at present site and datum.

AVERAGE DISCHARGE.--23 years (1944-67) 49.7 cfs (35,980 acre-ft per year).

EXTREMES.--Maximum discharge during year, 780 cfs July 3 (gage height, 2.50 ft); minimum, 11 cfs on several days during October to December.

1910, 1944-67: Maximum discharge, 1,510 cfs Jan. 31, 1963 (gage height, 3.22 ft), from rating curve extended above 350 cfs on basis of slope-area measurement at gage height 2.80 ft and logarithmic plotting; maximum gage height recorded, 3.63 ft Jan. 3, 1945, (backwater from ice); minimum discharge recorded, 4.9 cfs Nov. 17, 1948, but may have been less during periods of ice effect.

REMARKS.--Records excellent except those for winter months, which are fair. Small diversions above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	13	13	19	20	20	22	34	24	169	535	153	51
2	12	13	21	20	15	25	30	26	157	562	154	53
3	12	13	21	20	16	21	30	31	149	565	149	61
4	13	13	20	23	15	19	30	36	155	543	144	69
5	13	13	27	24	17	16	28	37	163	505	124	72
6	13	12	74	20	15	17	28	44	165	471	112	58
7	13	13	46	15	15	18	28	65	184	441	103	54
8	13	13	37	13	15	19	30	93	204	375	96	52
9	13	15	33	12	17	20	30	105	220	328	92	50
10	13	13	22	13	19	21	29	83	218	281	90	48
11	13	13	24	17	19	16	27	69	227	266	89	45
12	12	13	24	13	19	16	29	64	232	267	86	44
13	12	13	18	14	21	15	30	67	217	282	84	43
14	13	12	19	14	20	15	30	80	203	322	81	43
15	13	13	23	14	16	15	29	95	216	307	82	42
16	13	21	23	13	17	143	28	118	238	289	80	41
17	14	14	20	13	18	119	28	150	269	272	76	40
18	13	14	22	13	19	73	28	168	308	256	98	47
19	13	14	23	14	20	55	27	170	310	240	116	44
20	13	22	22	15	15	51	28	195	317	210	86	40
21	12	15	21	15	15	50	26	241	385	196	78	39
22	13	16	21	17	16	46	25	293	405	188	72	39
23	13	15	23	15	16	46	25	320	372	179	68	40
24	13	16	21	15	17	41	25	335	380	175	72	41
25	13	15	20	13	17	37	24	337	410	173	82	40
26	12	17	17	14	18	33	25	337	440	167	70	38
27	13	23	15	17	21	42	27	337	439	163	64	37
28	13	39	17	20	20	48	26	308	437	164	60	37
29	13	32	18	24	-----	41	25	269	469	164	57	36
30	13	22	20	24	-----	38	24	237	515	160	53	35
31	13	-----	20	24	-----	33	-----	203	-----	157	51	-----
TOTAL	398	490	751	518	488	1,171	833	4,937	8,573	9,203	2,822	1,379
MEAN	12.8	16.3	24.2	16.7	17.4	37.8	27.8	159	286	297	91.0	46.0
MAX	14	39	74	24	21	143	34	337	515	565	154	72
MIN	12	12	15	12	15	15	24	24	149	157	51	35
AC-FT	789	972	1,490	1,030	968	2,320	1,650	9,790	17,000	18,250	5,600	2,740

CAL YR 1966: TOTAL 12,949.2

MEAN 35.5

MAX 145

MIN 5.9

AC-FT 25,680

WAT YR 1967: TOTAL 31,563

MEAN 86.5

MAX 565

MIN 12

AC-FT 62,600

Peak discharge (base, 200 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
5-16	1630	1.83	282	about			
5-24	1945	2.15	416	7-3	2400	2.50	780

WALKER LAKE BASIN

10-2960. WEST WALKER RIVER BELOW LITTLE WALKER RIVER, NEAR COLEVILLE, CALIF.

LOCATION.--Lat 38°22'45", long 119°27'00", in NW¼SE¼ sec.9, T.6 N., R.23 E., on left bank 100 ft downstream from Little Walker River, 200 ft upstream from bridge on U.S. Highway 395, and 13 miles southeast of Coleville.

DRAINAGE AREA.--180 sq mi.

RECORDS AVAILABLE.--April 1938 to September 1967. Prior to October 1958, published as "below East Fork."

GAGE.--Water-stage recorder. Altitude of gage is 6,650 ft (from topographic map). Prior to Oct. 1, 1939, at site 125 ft downstream at datum 1.00 ft higher.

AVERAGE DISCHARGE.--29 years, 255 cfs (184,600 acre-ft per year).

EXTREMES.--Maximum discharge during year, 3,100 cfs July 3 (gage height, 5.95 ft); minimum, 18 cfs Nov. 9. 1938-67: Maximum discharge, 6,220 cfs Nov. 20, 1950 (gage height, 8.10 ft), from rating curve extended above 1,900 cfs on basis of slope-area measurement of peak flow; minimum, 4.0 cfs Nov. 18, 1948, result of freezeup.

Maximum discharge observed prior to 1938, 5,800 cfs Dec. 11, 1937, by slope-area measurement.

REMARKS.--Records good except those for winter months, which are fair. Station is above diversions except for a few small ranch ditches. Flow very slightly regulated by Poor Lake Reservoir (capacity unknown) 7 miles upstream.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	31	29	120	62	84	82	151	105	860	2,580	644	204
2	30	29	110	52	70	93	145	110	746	2,660	614	207
3	30	29	96	54	74	89	140	120	752	2,660	585	236
4	30	28	91	60	70	80	140	134	872	2,460	530	244
5	30	28	110	58	74	74	128	142	897	2,090	470	263
6	31	28	296	54	70	79	128	154	911	1,980	420	225
7	30	29	251	56	72	82	131	232	1,090	1,870	385	196
8	31	30	167	52	72	87	131	368	1,280	1,640	350	183
9	30	27	140	54	76	96	128	500	1,390	1,480	345	176
10	30	30	120	57	78	98	128	425	1,380	1,300	350	160
11	29	30	105	60	78	89	125	345	1,420	1,230	354	145
12	28	30	98	62	80	74	128	296	1,400	1,300	340	137
13	28	30	96	60	89	70	128	296	1,300	1,370	332	134
14	28	29	89	56	89	60	131	322	1,260	1,490	340	128
15	28	30	85	62	80	75	128	415	1,410	1,520	354	120
16	28	52	82	62	93	457	120	575	1,520	1,400	332	120
17	29	43	82	58	80	470	125	788	1,690	1,290	327	115
18	29	37	78	64	80	358	125	946	1,850	1,190	390	134
19	29	37	78	60	78	292	125	1,010	1,810	1,060	400	137
20	29	65	76	64	74	271	122	1,120	1,820	918	350	120
21	28	46	74	67	76	244	118	1,350	2,150	854	304	112
22	30	46	73	52	74	229	118	1,510	2,190	854	332	110
23	31	37	76	50	74	218	115	1,780	1,980	824	300	115
24	30	39	74	52	74	196	115	1,880	1,930	824	300	118
25	30	38	73	50	74	176	110	1,920	2,010	818	425	110
26	29	41	64	66	73	164	110	1,840	2,230	782	368	108
27	29	41	52	80	73	190	115	1,860	2,300	758	288	105
28	29	102	54	96	80	207	112	1,770	2,300	788	248	105
29	29	248	54	115	-----	180	110	1,450	2,310	818	225	102
30	29	164	60	105	-----	167	102	1,270	2,400	752	218	102
31	28	-----	58	98	-----	157	-----	1,090	-----	716	210	-----
Total	910	1,472	3,082	1,998	2,159	5,203	3,732	26,123	47,458	42,276	11,430	4,471
Mean	29.4	49.1	99.4	64.5	77.1	168	124	843	1,582	1,364	369	149
Max	31	248	296	115	93	470	151	1,920	2,400	2,660	644	263
Min	28	27	52	50	70	60	102	105	746	716	210	102
Ac-ft	1,800	2,920	6,110	3,960	4,280	10,320	7,400	51,810	94,130	83,850	22,670	8,870

Cal yr 1966 Total 67,299 Mean 184 Max 939 Min 27 Ac-ft 133,500
 Wtr yr 1967 Total 150,314 Mean 412 Max 2,660 Min 27 Ac-ft 298,100

Peak discharge (base, 1,120 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
5-24	2300	5.17	2,220	7-15	2015	4.74	1,850
7-3	0200	5.95	3,100				

10-2965. WEST WALKER RIVER NEAR COLEVILLE, CALIF.

LOCATION.--Lat 38°30'55", long 119°27'15", in NW¼NE¼ sec.28, T.8 N., R.23 E., on left bank a quarter of a mile downstream from Rock Creek and 5 miles southeast of Coleville.

DRAINAGE AREA.--271 sq mi.

RECORDS AVAILABLE.--October 1902 to July 1908 (published as West Fork of Walker River near Coleville 1903, 1905-8 and as Walker River (West Fork) near Coleville 1904), March 1909 to September 1910, June 1915 to March 1938, May 1957 to September 1967. Monthly discharge only for some periods, published in WSP 1314.

GAGE.--Digital water-stage recorder. Altitude of gage is 5,520 ft (from topographic map). Prior to July 31, 1908, staff gage at site half a mile upstream at different datum. Mar. 1, 1909, to Aug. 31, 1910, staff gage, and June 18, 1915, to Aug. 15, 1919, graphic water-stage recorder near present site at different datums. Aug. 16, 1919, to Mar. 31, 1938, graphic water-stage recorder at site 1,000 ft upstream at different datum. May 26, 1957, to July 25, 1964, graphic water-stage recorder at present site and datum.

AVERAGE DISCHARGE.--38 years (1902-7, 1909-10, 1915-37, 1957-67), 271 cfs (196,200 acre-ft per year).

EXTREMES.--Maximum discharge during year, 2,840 cfs July 2 (gage height, 4.54 ft); minimum, 16 cfs Nov. 25. 1915-38, 1957-67: Maximum discharge, 6,500 cfs Dec. 11, 1937, from slope-area measurement of peak flow; minimum, 5 cfs Dec. 3, 1924, Aug. 27, 1931.

REMARKS.--Records good except those for winter months, which are fair. Station is above diversions except for a few small ranch ditches. Flow very slightly regulated by Poor Lake Reservoir (capacity unknown) 17 miles upstream.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	45	35	126	62	85	94	169	104	959	2,470	680	206
2	44	35	117	54	70	102	165	118	826	2,410	629	211
3	44	34	100	56	75	105	155	129	812	2,400	603	238
4	45	33	93	56	70	94	154	148	952	2,290	545	248
5	45	33	124	62	75	84	143	161	980	2,110	472	266
6	45	33	252	56	70	87	143	165	973	2,010	423	231
7	45	34	251	58	72	88	147	241	1,150	1,860	395	201
8	45	35	175	60	72	90	144	378	1,310	1,660	362	187
9	44	31	145	60	75	96	145	548	1,410	1,500	350	178
10	44	36	126	62	81	99	146	478	1,410	1,330	352	164
11	44	35	110	62	81	91	139	396	1,480	1,260	352	149
12	43	35	101	61	84	79	141	356	1,440	1,340	337	141
13	41	33	96	60	90	59	140	347	1,340	1,420	331	135
14	41	33	91	59	96	60	144	369	1,300	1,540	334	134
15	41	33	86	60	89	75	144	453	1,430	1,570	352	129
16	41	55	85	61	86	458	128	623	1,550	1,500	339	125
17	41	49	83	60	88	505	138	875	1,660	1,400	327	121
18	40	41	80	62	87	382	141	1,060	1,800	1,290	358	137
19	41	41	80	62	86	311	136	1,140	1,790	1,190	440	145
20	38	67	80	61	74	282	132	1,270	1,790	1,040	359	127
21	38	55	78	78	74	267	129	1,500	2,100	951	323	119
22	39	53	72	49	78	249	123	1,710	2,170	924	305	116
23	39	40	72	50	83	243	119	1,850	1,970	905	312	120
24	38	44	68	50	85	220	122	1,920	1,900	880	288	128
25	37	40	68	47	85	203	112	1,980	2,060	893	410	121
26	36	44	63	60	83	192	113	1,890	2,220	843	381	114
27	37	45	54	80	83	201	126	1,900	2,250	798	306	113
28	36	71	55	93	89	235	120	1,800	2,180	823	263	112
29	36	231	58	120	-----	203	115	1,530	2,250	876	231	111
30	35	168	61	112	-----	183	107	1,360	2,320	817	217	111
31	35	-----	62	98	-----	177	-----	1,180	-----	741	209	-----
TOTAL	1,263	1,552	3,112	2,031	2,266	5,614	4,080	27,979	47,782	43,041	11,585	4,638
MEAN	40.7	51.7	100	65.5	80.9	181	136	903	1,593	1,388	374	155
MAX	45	231	252	120	96	505	169	1,980	2,320	2,470	680	266
MIN	35	31	54	47	70	59	107	104	812	741	209	111
AC-FT	2,510	3,080	6,170	4,030	4,490	11,140	8,090	55,500	94,770	85,370	22,980	9,200

CAL YR 1966: TOTAL 70,085 MEAN 192 MAX 965 MIN 31 AC-FT 139,000
WAT YR 1967: TOTAL 154,943 MEAN 425 MAX 2,470 MIN 31 AC-FT 307,300

Peak discharge (base, 1,120 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
5-25	0115	4.03	2,250	7-15	2200	3.67	1,870
7- 2	0215	4.54	2,840				

WALKER LAKE BASIN

10-2970. TOPAZ RESERVOIR NEAR TOPAZ, CALIF.

LOCATION.--Lat 38°41'35", long 119°31'10", in NW¼NE¼ sec.33, T.10 N., R.22 E., at outlet works of Topaz Reservoir, 5.5 miles north of Topaz.

RECORDS AVAILABLE.--December 1921 to September 1931 (monthly contents only published in WSP 1734), October 1931 to September 1967.

GAGE.--Float and staff gages read once daily. Datum of gage is at mean sea level (levels by Walker River Irrigation District).

EXTREMES.--Maximum contents during year, 58,590 acre-ft July 31 (elevation 5,004.63 ft); minimum, 4,960 acre-ft Nov. 2 (elevation, 4,975.50 ft).

1921-67: Maximum contents, 60,240 acre-ft June 30, 1941 (elevation 5,005.35 ft); no contents Oct. 31, 1924, Sept. 22, 24-30, Oct. 1-15, 1960.

REMARKS.--Topaz Reservoir, formerly known as Alkali Lake, was formed by the diversion of water from West Walker River through a feeder canal and the construction of an outlet tunnel through a low saddle in rim of lake. Storage began December 1921. Usable capacity, 59,440 acre-ft between elevations 4,972.3 (lowest practical elevation for diversion through tunnel, bottom of outlet tunnel at elevation 4,970 ft) and 5,005 ft (3 ft below top of levee). Capacity of reservoir increased from 45,000 acre-ft to 59,440 acre-ft in October 1937 by an earth-fill, rock-faced levee at south end. Figures given herein represent usable contents. Water is used for irrigation in Walker River Irrigation District.

COOPERATION.--Elevations furnished by Walker River Irrigation District.

CAPACITY TABLE (ELEVATION, IN FEET, AND CONTENTS, IN ACRE-FEET)

4,975	4,180	4,990	28,970
4,977	7,320	4,995	38,100
4,980	12,130	5,000	48,350
4,985	20,390	5,005	59,440

CONTENTS, IN ACRE-FEET, AT 0700 HOURS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6,370	4,970	9,070	19,600	27,260	33,780	42,800	38,290	34,980	51,850	58,340	47,960
2	6,360	4,960	9,250	19,790	27,610	33,960	43,000	37,800	34,620	52,800	58,090	47,240
3	6,340	4,990	9,710	19,970	27,920	34,140	43,250	37,130	34,180	53,600	57,860	46,520
4	6,310	5,040	10,030	20,170	28,220	34,450	43,470	36,390	33,890	54,260	57,750	45,870
5	6,310	5,080	10,520	20,340	28,480	34,620	43,720	35,750	33,810	54,750	57,570	45,550
6	6,280	5,120	11,340	20,510	28,760	34,840	43,870	34,800	33,890	55,080	57,410	45,490
7	6,260	5,150	12,470	20,650	29,040	35,040	44,010	33,520	33,940	55,180	57,270	45,320
8	6,220	5,190	13,190	20,800	29,300	35,240	44,140	32,350	34,070	55,240	57,070	45,050
9	6,060	5,240	13,680	20,950	29,530	35,450	44,200	31,420	34,430	55,240	56,800	44,840
10	5,900	5,320	14,130	21,140	29,780	35,620	44,260	30,680	34,820	55,310	56,480	44,630
11	5,700	5,370	14,530	21,300	30,040	35,780	44,180	29,850	35,260	55,360	56,170	44,410
12	5,590	5,430	14,890	21,510	30,270	36,010	43,990	28,870	35,670	55,580	55,810	44,140
13	5,540	5,490	15,220	21,680	30,520	36,400	43,780	27,870	36,030	55,900	55,400	43,800
14	5,440	5,590	15,530	21,850	30,770	36,670	43,540	26,880	36,270	56,230	55,040	43,410
15	5,370	5,630	15,810	22,050	30,980	36,900	43,120	25,980	36,420	56,440	54,660	43,020
16	5,330	5,700	16,090	22,220	31,190	37,460	42,820	25,400	36,820	56,570	54,280	42,650
17	5,270	5,870	16,370	22,360	31,400	39,670	42,490	25,050	37,380	57,050	53,950	42,310
18	5,270	5,930	16,620	22,520	31,640	41,030	42,240	25,110	38,060	57,160	53,530	41,960
19	5,240	6,180	16,880	22,680	31,870	41,630	41,940	25,430	38,920	57,110	53,240	41,760
20	5,190	6,400	17,130	22,850	32,070	41,960	41,650	25,860	39,710	57,140	53,200	41,700
21	5,150	6,630	17,380	23,100	32,260	42,000	41,330	26,470	40,460	57,180	53,000	41,650
22	5,120	6,800	17,630	23,360	32,460	42,020	41,030	27,380	41,800	57,300	52,760	41,610
23	5,080	7,000	17,850	23,820	32,640	42,020	40,670	28,550	43,190	57,430	52,420	41,570
24	5,050	7,130	18,080	24,060	32,820	41,960	40,260	29,950	44,280	57,610	52,010	41,510
25	5,050	7,260	18,280	24,400	33,020	41,880	40,030	31,240	45,320	57,770	51,570	41,550
26	5,050	7,400	18,500	24,640	33,220	41,800	39,790	32,350	46,390	57,910	51,260	41,550
27	5,050	7,560	18,720	24,920	33,400	41,700	39,590	33,240	47,640	58,000	51,000	41,490
28	5,040	7,700	18,870	25,190	33,560	41,880	39,350	34,090	48,840	58,090	50,540	41,410
29	5,010	7,960	19,030	25,600	-----	42,120	39,070	34,780	49,940	58,230	50,000	41,290
30	5,010	8,530	19,220	26,240	-----	42,330	38,740	35,060	50,940	58,520	49,420	41,290
31	4,990	-----	19,400	26,780	-----	42,570	-----	35,170	-----	58,590	48,650	-----
(+)	4,975.52	4,977.76	4,984.41	4,988.74	4,992.58	4,997.24	4,995.33	4,993.46	5,001.20	5,004.63	5,000.14	4,996.61
(+)	-1,400	+3,540	+10,870	+7,380	+6,780	+9,010	-3,830	-3,570	+15,770	+7,650	-9,940	-7,360

Calendar year 1966 † -28,730

Water year 1966-67 † +34,900

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-feet.

10-2975. WEST WALKER RIVER AT HOYE BRIDGE, NEAR WELLINGTON, NEV.

LOCATION.--Lat 38°43'40", long 119°25'40", in NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.17, T.10 N., R.23 E., on left bank 20 ft upstream from Hoyer Bridge, 2 miles upstream from head of Saroni Canal, and 4 miles southwest of Wellington.

DRAINAGE AREA.--533 sq mi (revised).

RECORDS AVAILABLE.--April to August 1910 (published as West Walker River near Wellington), July 1920 to September 1923, March 1924 to September 1932, October 1957 to September 1967. Monthly discharge only for some periods published in WSP 1314.

GAGE.--Digital water-stage recorder. Altitude of gage is 4,980 ft (from topographic map). April to August 1910, staff gage at same site at different datum. July 1, 1920, to Sept. 30, 1923, graphic water-stage recorder at site 3 miles downstream (1 mile downstream from Saroni Canal) at different datum and supplemental staff gage on Saroni Canal 1 mile downstream from head. Mar. 1, 1924, to Sept. 30, 1932, graphic water-stage recorder at same site at different datum. Oct. 1, 1957, to Aug. 12, 1964, graphic water-stage recorder at present site and datum.

AVERAGE DISCHARGE.--20 years (1920-23, 1925-32, 1957-67), 219 cfs (158,500 acre-ft per year), unadjusted.

EXTREMES.--Maximum discharge during year, 2,090 cfs July 4 (gage height, 8.49 ft); minimum, 11 cfs Dec. 15, 1910, 1920-23, 1924-32, 1957-67: Maximum discharge, 2,180 cfs June 6, 1922; minimum observed, 4.8 cfs Jan. 5, 1961.

REMARKS.--Records good. Flow regulated by off-channel storage in Topaz Reservoir since Jan. 30, 1922. Diversions for irrigation of 10,500 acres above station. Records include releases from Topaz Reservoir and all return flow from Antelope Valley.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	39	45	14	17	40	31	125	306	1,100	1,830	897	475
2	38	42	14	17	38	31	115	372	952	1,950	777	469
3	39	33	15	17	33	32	105	413	821	2,000	688	457
4	39	32	13	18	31	32	100	411	767	2,060	641	460
5	40	29	20	17	28	32	100	469	800	2,050	571	461
6	73	28	31	16	28	32	102	654	809	1,990	516	403
7	73	29	29	16	28	33	112	690	859	1,940	490	348
8	72	28	25	16	27	33	142	695	992	1,830	479	308
9	71	28	21	16	27	33	142	680	1,080	1,600	445	271
10	69	27	19	16	27	34	162	707	1,140	1,370	450	268
11	63	27	17	18	27	34	203	726	1,160	1,190	463	258
12	56	27	16	18	27	35	237	716	1,180	1,150	454	267
13	57	27	16	18	27	36	292	700	1,150	1,200	444	289
14	57	27	15	18	28	37	295	685	1,090	1,360	446	290
15	56	26	15	18	28	50	297	676	1,110	1,440	461	278
16	56	23	15	18	28	100	299	666	1,170	1,530	464	266
17	56	21	15	16	28	150	271	666	1,210	1,610	482	266
18	55	21	15	16	28	200	252	695	1,310	1,570	478	261
19	55	21	15	16	28	250	297	736	1,380	1,290	469	226
20	53	20	15	18	28	270	299	771	1,360	1,020	461	194
21	52	18	15	19	28	280	301	897	1,390	808	426	161
22	52	18	15	21	29	290	301	1,040	1,430	726	429	144
23	52	15	16	21	30	300	301	1,150	1,450	671	447	134
24	51	14	16	18	31	300	290	1,200	1,390	641	481	120
25	46	14	17	18	31	300	232	1,350	1,410	630	508	122
26	46	13	18	21	31	250	231	1,420	1,470	616	519	143
27	46	13	18	21	31	200	229	1,470	1,540	602	514	165
28	46	14	18	22	31	180	234	1,520	1,640	592	503	158
29	46	14	17	25	-----	150	272	1,460	1,650	694	504	146
30	45	14	17	45	-----	140	301	1,340	1,720	965	497	137
31	45	-----	17	43	-----	130	-----	1,250	-----	978	479	-----
TOTAL	1,644	708	539	614	826	4,005	6,639	26,531	36,530	39,903	15,883	7,945
MEAN	53.0	23.6	17.4	19.8	29.5	129	221	856	1,218	1,287	512	265
MAX	73	45	31	45	40	300	301	1,520	1,720	2,060	897	475
MIN	38	13	13	16	27	31	100	306	767	592	426	120
AC-FT	3,260	1,400	1,070	1,220	1,640	7,940	13,170	52,620	72,460	79,150	31,500	15,760

CAL YR 1966: TOTAL 74,749 MEAN 205 MAX 670 MIN 13 AC-FT 148,300
WAT YR 1967: TOTAL 141,767 MEAN 388 MAX 2,060 MIN 13 AC-FT 281,200

HUMBOLDT-CARSON SINK BASIN

CARSON RIVER BASIN

10-3045. SILVER CREEK BELOW PENNSYLVANIA CREEK, NEAR MARKLEEVILLE, CALIF.

LOCATION.--Lat 38°36'00", long 119°46'30", in SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.28, T.9 N., R.20 E., on left bank a quarter of a mile downstream from Pennsylvania Creek, 4 miles upstream from mouth, and 6.5 miles south of Markleeville.

DRAINAGE AREA.--19.6 sq mi.

RECORDS AVAILABLE.--October 1946 to September 1967 (discontinued as a continuous-record site, continued as crest-stage partial-record site). October and November 1946 monthly discharge only, published in WSP 1314.

GAGE.--Digital water-stage recorder. Altitude of gage is 6,500 ft (from topographic map). Prior to Aug. 3, 1954, graphic water-stage recorder at site 180 ft upstream at datum 5.20 ft higher. Aug. 3, 1954, to Sept. 16, 1957, graphic water-stage recorder at site 30 ft upstream at datum 3.00 ft higher. Sept. 17, 1957, to Aug. 22, 1963, graphic water-stage recorder at present site at datum 2.00 ft higher. Aug. 23, 1963, to Mar. 11, 1965, graphic water-stage recorder at present site and datum.

AVERAGE DISCHARGE.--21 years, 42.7 cfs (30,910 acre-ft per year).

EXTREMES.--Maximum discharge during year, 620 cfs May 24 (gage height, 5.14 ft); minimum, 1.0 cfs Nov. 9. 1946-67: Maximum discharge, 2,220 cfs Feb. 1, 1963 (gage height, 5.28 ft, datum then in use), from rating curve extended above 400 cfs on basis of slope-area measurement of peak flow; minimum, 0.60 cfs Dec. 5, 1959, Nov. 13, 1961.

REMARKS.--Records good. Flow partly regulated by three small reservoirs (total capacity, 1,700 acre-ft).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	2.4	2.3	19	8.5	13	14	22	15	128	368	54	24
2	2.4	2.3	27	8.3	12	15	20	18	109	368	51	23
3	2.4	2.2	33	8.3	12	15	20	22	129	352	46	25
4	2.7	2.3	26	8.3	12	14	19	24	144	312	41	30
5	2.7	2.3	40	8.1	12	13	18	21	147	290	36	32
6	2.7	2.3	90	7.8	12	13	18	30	165	279	32	26
7	2.4	2.4	40	7.6	13	13	17	61	211	243	29	25
8	2.4	2.5	20	7.3	13	15	17	111	239	214	27	24
9	2.4	2.1	18	7.3	14	15	18	111	257	186	25	23
10	2.4	2.4	16	7.3	15	15	18	81	260	167	24	22
11	2.4	2.4	15	7.3	16	13	17	64	269	162	28	22
12	2.5	2.5	15	7.6	17	13	17	57	264	142	35	22
13	2.3	2.4	14	7.4	17	12	18	58	238	169	34	22
14	2.0	2.4	14	7.5	16	12	18	75	251	152	33	22
15	2.3	3.3	13	8.0	15	14	17	116	264	147	35	22
16	2.0	8.1	13	8.4	14	171	17	178	332	140	40	17
17	2.3	4.6	13	7.9	14	113	17	239	425	127	34	8.5
18	2.3	3.5	13	7.0	14	72	17	255	360	118	33	11
19	2.3	5.3	14	8.0	14	54	16	260	326	104	31	8.8
20	2.4	13	14	7.5	13	46	15	302	354	91	30	8.5
21	2.3	4.3	13	8.4	13	43	15	375	400	83	29	8.5
22	2.5	3.8	12	8.1	13	42	15	423	383	80	28	9.3
23	2.5	3.7	12	9.3	14	39	15	425	352	77	34	8.5
24	2.5	3.8	10	9.1	14	34	15	433	342	73	59	8.5
25	2.4	3.5	10	8.7	13	32	14	380	380	66	53	8.5
26	2.3	4.1	9.9	9.6	13	29	14	368	403	61	40	8.3
27	2.3	4.5	8.8	10	13	27	15	330	410	59	35	8.3
28	2.3	80	8.8	13	14	30	14	302	385	59	31	8.1
29	2.3	59	9.0	20	-----	27	14	262	378	84	28	9.5
30	2.2	25	8.8	16	-----	25	14	216	388	68	26	7.8
31	2.3	-----	8.5	14	-----	24	-----	167	-----	61	25	-----
TOTAL	73.6	262.3	577.8	281.6	385	1,014	501	5,779	8,693	4,902	1,086	503.1
MEAN	2.37	8.74	18.6	9.08	13.8	32.7	16.7	186	290	158	35.0	16.8
MAX	2.7	80	90	20	17	171	22	433	425	368	59	32
MIN	2.0	2.1	8.5	7.0	12	12	14	15	109	59	24	7.8
AC-FT	146	520	1,150	559	764	2,010	994	11,460	17,240	9,720	2,150	998

CAL YR 1966: TOTAL 10,894.2

MEAN 29.8

MAX 153

MIN 1.7

AC-FT 21,610

WAT YR 1967: TOTAL 24,058.4

MEAN 65.9

MAX 433

MIN 2.0

AC-FT 47,720

Peak discharge (base, 190 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-28	1415	3.67	241	6-17	1630	4.90	530
3-16	1245	4.19	348	7-29	1815	4.83	509

CARSON RIVER BASIN

517

10-3082. EAST FORK CARSON RIVER BELOW MARKLEEVILLE CREEK, NEAR MARKLEEVILLE, CALIF.

LOCATION.--Lat 38°42'50", long 119°45'50", in SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec.15, T.10 N., R.20 E., on right bank 0.5 mile downstream from Markleeville Creek and 1.5 miles north-northeast of Markleeville.

DRAINAGE AREA.--276 sq mi.

RECORDS AVAILABLE.--August 1960 to September 1967.

GAGE.--Digital water-stage recorder. Altitude of gage is 5,400 ft (from topographic map). Prior to Nov. 23, 1963, graphic water-stage recorder.

AVERAGE DISCHARGE.--7 years, 351 cfs (254,100 acre-ft per year).

EXTREMES.--Maximum discharge during year, 4,400 cfs May 24 (gage height, 4.77 ft); minimum, 36 cfs Nov. 9, 1960-67: Maximum discharge, 15,100 cfs Jan. 31, 1963 (gage height, 8.21 ft); minimum, 16 cfs Nov. 17, 1961.

REMARKS.--Records good. A few small diversions for irrigation above station. Flow slightly regulated by several small reservoirs (total capacity, 5,000 acre-ft).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	46	46	166	116	237	189	369	279	1,500	2,630	422	185
2	44	46	225	109	208	197	353	305	1,270	2,600	399	186
3	44	46	234	124	195	194	351	337	1,330	2,530	375	203
4	46	46	160	106	183	182	348	377	1,530	2,300	355	239
5	46	45	342	101	182	160	323	385	1,600	2,130	348	238
6	45	43	876	96	177	167	321	410	1,560	2,000	344	192
7	43	45	431	134	179	172	334	599	1,890	1,800	338	184
8	43	48	266	129	178	176	328	947	2,030	1,590	325	175
9	44	41	221	127	185	191	333	1,190	2,130	1,400	318	170
10	45	45	205	120	194	189	337	949	2,080	1,230	300	163
11	45	46	185	103	195	177	314	765	2,110	1,150	270	156
12	45	46	174	100	205	164	318	675	2,090	1,140	266	152
13	44	45	169	95	231	148	322	668	1,910	1,120	259	153
14	43	44	160	95	231	159	332	770	1,920	1,130	256	157
15	45	46	149	95	195	187	327	1,040	2,020	1,200	277	149
16	46	106	147	96	191	2,230	302	1,410	2,230	1,170	312	126
17	46	78	145	88	186	1,480	311	1,920	2,680	1,010	273	109
18	49	59	141	95	187	921	321	2,150	2,600	897	263	139
19	47	57	142	108	183	715	312	2,200	2,330	804	267	134
20	47	145	142	106	168	626	307	2,410	2,450	710	260	119
21	48	90	137	283	165	582	305	2,940	2,710	644	240	121
22	48	76	129	150	168	552	297	3,300	2,660	611	227	127
23	51	68	128	130	168	535	296	3,460	2,490	589	251	131
24	52	63	119	133	168	477	297	3,590	2,400	558	332	150
25	50	63	115	106	165	435	287	3,250	2,540	536	364	134
26	49	78	119	143	163	414	290	3,120	2,670	509	302	124
27	48	77	101	181	166	415	312	2,970	2,720	480	253	121
28	48	277	103	222	176	521	296	2,730	2,600	481	232	117
29	48	403	150	638	-----	450	289	2,480	2,570	531	211	121
30	47	201	124	383	-----	402	275	2,200	2,640	484	204	119
31	45	-----	120	285	-----	384	-----	1,940	-----	451	194	-----
TOTAL	1,437	2,519	6,025	4,797	5,229	13,791	9,507	51,766	65,260	36,415	9,037	4,594
MEAN	46.4	84.0	194	155	187	445	317	1,670	2,175	1,175	292	153
MAX	52	403	876	638	237	2,230	369	3,590	2,720	2,630	422	239
MIN	43	41	101	88	163	148	275	279	1,270	451	194	109
AC-FT	2,850	5,000	11,950	9,510	10,370	27,350	18,860	102,700	129,400	72,230	17,920	9,110

CAL YR 1966: TOTAL 90,265 MEAN 247 MAX 1,090 MIN 37 AC-FT 179,000
WAT YR 1967: TOTAL 210,377 MEAN 576 MAX 3,590 MIN 41 AC-FT 417,300

Peak discharge (base 1,300 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-6	1045	2.35	1,330	6-21	2315	3.99	3,160
3-16	1500	4.15	3,350	7-15	2300	2.55	1,530
5-24	2045	4.77	4,400				

CARSON RIVER BASIN

10-3090. EAST FORK CARSON RIVER NEAR GARDNERVILLE, NEV.

LOCATION.--Lat 38°50'50", long 119°42'10", in SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec.2, T.11 N., R.20 E., on left bank 0.1 mile downstream from Horseshoe Bend, 2 miles east of Mud Lake Reservoir, 4.5 miles downstream from Bryant Creek, and 7 miles southeast of Gardnerville.

DRAINAGE AREA.--341 sq mi.

RECORDS AVAILABLE.--January 1890 to December 1893, October 1900 to December 1906 (gage heights only August to December 1904 and July to December 1905), January 1908 to December 1910, June to October 1917, December 1924 to September 1928, June to September 1929, October 1935 to December 1937, May 1939 to September 1967. Monthly discharge only for some periods published in WSP 1314.

GAGE.--Digital water-stage recorder and graphic water-stage recorder with thermograph attachment. Datum of gage is 4,985.11 ft above mean sea level (levels by Bureau of Reclamation). Prior to May 19, 1939, staff gages at several sites within 2 miles of present site at various datums. May 19, 1939 to June 30, 1955, graphic water-stage recorder. July 1, 1955 to Dec. 8, 1966, graphic water-stage recorder with thermograph attachment.

AVERAGE DISCHARGE.--41 years (1890-93, 1900-1903, 1908-10, 1925-28, 1935-37, 1939-67), 389 cfs (281,600 acre-ft per year).

EXTREMES.--Maximum discharge during year, 4,100 cfs May 24 (gage height, 5.58 ft); minimum, 42 cfs Nov. 10. 1890-93, 1900-1906, 1908-10, 1917, 1924-28, 1929, 1935-37, 1939-67: Maximum discharge, 17,600 cfs Dec. 23, 1955 (gage height, 11.88 ft), from rating curve extended above 6,000 cfs on basis of slope-area measurements at gage heights 9.66 and 11.88 ft; minimum observed, 8 cfs Dec. 4-10, 19-23, 1904.

REMARKS.--Records good. Station is above all diversions in Carson Valley. Diversions for irrigation above station. Flow slightly regulated by several small reservoirs (total capacity, 5,000 acre-ft). Records of water temperature for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	50	49	170	115	274	183	375	252	1,380	2,500	445	202
2	49	49	208	100	232	192	362	272	1,180	2,470	411	196
3	47	50	268	107	216	208	349	298	1,170	2,420	384	215
4	50	50	167	105	196	186	362	345	1,390	2,230	357	259
5	52	49	377	104	195	156	325	357	1,450	2,050	333	269
6	50	47	935	76	187	164	321	362	1,380	1,930	313	215
7	50	52	528	105	190	173	341	528	1,670	1,760	298	205
8	50	53	341	118	187	180	325	848	1,850	1,540	283	193
9	49	50	239	118	198	198	333	1,180	1,950	1,390	273	187
10	50	50	219	129	205	202	333	967	1,930	1,240	280	181
11	50	53	197	109	205	192	313	745	1,950	1,160	269	173
12	49	53	182	103	218	176	309	647	1,950	1,150	273	170
13	49	52	175	96	232	156	309	629	1,790	1,130	266	170
14	50	52	166	95	260	164	321	707	1,750	1,140	266	170
15	49	52	152	95	202	192	321	946	1,880	1,180	273	167
16	50	100	150	98	202	2,400	287	1,320	2,050	1,210	325	149
17	50	94	147	87	195	1,840	298	1,780	2,500	1,050	287	134
18	52	73	141	90	198	1,150	309	2,020	2,490	939	276	154
19	50	64	142	109	198	803	298	2,040	2,220	855	283	162
20	49	130	143	98	173	683	291	2,230	2,290	771	276	141
21	49	115	139	326	173	635	295	2,700	2,550	701	262	139
22	50	87	130	187	173	605	280	3,070	2,540	665	238	141
23	50	75	125	140	176	578	280	3,320	2,400	635	248	149
24	50	71	120	152	176	523	280	3,330	2,280	600	321	167
25	50	64	115	121	173	470	272	2,880	2,380	578	416	156
26	49	77	131	152	170	435	269	2,910	2,520	545	341	144
27	49	77	109	220	167	402	287	2,830	2,600	517	276	139
28	49	190	96	258	167	539	272	2,540	2,490	517	252	137
29	49	482	119	801	-----	480	266	2,270	2,460	550	231	137
30	49	228	146	515	-----	416	252	2,010	2,480	556	218	139
31	47	-----	115	353	-----	402	-----	1,810	-----	480	211	-----
TOTAL	1,536	2,688	6,392	5,282	5,538	15,083	9,235	48,143	60,920	36,459	9,185	5,160
MEAN	49.5	87.6	206	170	198	487	308	1,553	2,031	1,176	296	172
MAX	52	482	935	801	274	2,400	375	3,330	2,600	2,500	445	269
MIN	47	47	96	76	167	156	252	252	1,170	480	211	134
AC-FT	3,050	5,330	12,680	10,480	10,980	29,920	18,320	95,490	120,800	72,320	18,220	10,230

CAL YR 1966: TOTAL 93,978

MEAN 257

MAX 1,120

MIN 36

AC-FT 186,400

WAT YR 1967: TOTAL 205,591

MEAN 563

MAX 3,330

MIN 47

AC-FT 407,800

Peak discharge (base 1,300 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 6	1300	3.44	1,500	5- 8	2345	3.20	1,310
1-29	1145	3.20	1,310	5-24	2315	5.58	4,100
3-16	1645	5.55	3,870	6-21	2400	4.79	3,020

CARSON RIVER BASIN

519

10-3100. WEST FORK CARSON RIVER AT WOODFORDS, CALIF.

LOCATION.--Lat 38°46'10", long 119°49'55", in NW¼SE¼ sec.34, T.11 N., R.19 E., on left bank 0.3 mile downstream from bridge on State Highway 88-89, 0.6 mile southwest of Woodfords, and 3.75 miles downstream from Willow Creek.

DRAINAGE AREA.--65.6 sq mi.

RECORDS AVAILABLE.--October 1900 to May 1907, 1910-11 (fragmentary), October 1938 to September 1967. January 1890 to March 1892, June 1907 to September 1920 (except portions of 1910-11) at site 0.7 mile downstream; records not equivalent owing to diversions for irrigation. Monthly discharge only for some periods, published in WSP 1314.

GAGE.--Water-stage recorder. Altitude of gage is 5,760 ft (from river-profile map). Prior to Oct. 1, 1938, staff gage at same site at different datum. Oct. 1, 1938, to Nov. 11, 1958, water-stage recorder at same site at datum 1.02 ft lower. Nov. 13, 1958, to Jan. 30, 1963, water-stage recorder at site 150 ft downstream at datum 3.06 ft lower.

AVERAGE DISCHARGE.--36 years (1900-1907, 1938-67), 114 cfs (82,530 acre-ft per year).

EXTREMES.--Maximum discharge during year, 1,590 cfs May 24 (gage height, 5.01 ft); minimum daily, 10 cfs Oct. 1, 2.

1900-1907, 1910-11, 1938-67: Maximum discharge, 4,890 cfs Feb. 1, 1963 (gage height, 9.0 ft), on basis of slope-area measurement of peak flow; minimum (1900-1907, 1938-67), 5 cfs Dec. 23, 1961.

Flood of Dec. 11, 1937, reached a stage of 8.0 ft (present datum), from floodmarks (discharge, 3,500 cfs by slope-area measurement).

REMARKS.--Records fair except those for periods of no gage-height record, which are poor. One small diversion above station for irrigation. Flow slightly regulated by several small reservoirs (total capacity, 1,500 acre-ft).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	10	14	55	31	48	42	64	54	460	557	86	66
2	10	14	52	32	46	50	56	57	420	529	78	58
3	11	15	46	30	40	48	60	62	400	529	74	42
4	12	15	48	31	38	46	52	69	420	505	66	39
5	13	15	42	29	41	44	54	68	450	485	60	41
6	14	16	71	25	40	50	58	72	425	451	53	37
7	14	18	86	27	39	54	55	116	470	409	50	36
8	16	18	69	28	41	60	55	182	490	360	46	34
9	16	17	62	29	45	66	59	232	520	339	44	33
10	16	18	56	30	48	74	60	206	520	312	42	35
11	15	18	52	28	45	66	57	177	520	303	39	46
12	15	18	49	28	50	60	56	160	520	291	35	54
13	15	18	46	28	46	56	59	164	500	291	33	55
14	15	17	44	30	42	52	61	198	480	288	39	55
15	15	19	43	30	40	50	54	249	520	285	48	71
16	15	35	42	32	38	108	50	302	540	262	69	69
17	15	30	40	30	41	180	56	343	600	234	64	38
18	14	25	39	34	43	140	52	386	600	216	98	52
19	15	25	39	32	44	100	48	417	520	202	96	48
20	15	41	39	28	41	90	46	463	520	179	62	46
21	14	25	36	33	38	92	48	648	540	164	44	51
22	15	25	35	34	40	94	50	1,000	600	154	40	52
23	15	25	35	32	42	80	52	1,120	620	146	40	54
24	15	26	32	30	45	74	54	1,080	600	141	62	50
25	15	24	34	30	47	70	50	995	630	132	104	45
26	14	28	34	31	40	76	50	976	652	120	84	64
27	14	27	32	35	36	80	52	830	630	112	55	68
28	14	77	30	41	45	88	52	795	608	107	81	66
29	14	150	31	61	- - - -	72	48	725	581	105	96	68
30	14	72	31	62	- - - -	66	50	657	573	104	93	68
31	14	- - - -	32	49	- - - -	70	- - - -	545	- - - -	102	88	- - - -
Total	439	885	1,382	1,030	1,189	2,298	1,618	13,348	15,929	8,414	1,969	1,541
Mean	14.2	29.5	44.6	33.2	42.5	74.1	53.9	431	531	271	63.5	51.4
Max	16	150	86	62	50	180	64	1,120	652	557	104	71
Min	10	14	30	25	36	42	46	54	400	102	33	33
Ac-ft	871	1,760	2,740	2,040	2,360	4,560	3,210	26,480	31,590	16,690	3,910	3,060

Cal yr 1966: Total 26,977 Mean 73.9 Max 293 Min 10 Ac-ft 53,510
Wtr yr 1967: Total 50,042 Mean 137 Max 1,120 Min 10 Ac-ft 99,270

Peak discharge (base, 500 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
5-24	1900	5.01	1,590	6-25	2300	3.71	775

Note.--No gage height record Feb. 3 to Apr. 4, Apr. 15-30, June 1-25.

PYRAMID AND WINNEMUCCA LAKES BASIN

10-3365. PYRAMID LAKE NEAR NIXON, NEV.

LOCATION.--Lat 39°50'30", long 119°28'00", in SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.24, T.23 N., R.22 E., at southwest corner of concrete bridge No. 296 B, 150 ft southwest of milepost 297, 6 miles west of Nixon, and 11.5 miles south along Southern Pacific Railroad from station at Sutcliffe.

RECORDS AVAILABLE.--1867-1925 (occasional elevations in some years), June 1926 to September 1967 (occasional elevations in each year).

GAGE.--Benchmark N-21 of U.S. Coast and Geodetic Survey at elevation of 3,940.29 ft above mean sea level, datum of 1929, supplementary adjustment of 1956. Prior to January 1934, elevations were determined from benchmark No. 1 of General Land Office using elevation of 3,882.26 ft adjustment of 1912 (to convert these records to supplementary adjustment of 1956, add 0.81 ft). January 1934 to September 1955, elevations were determined from benchmark N-21 using elevation of 3,940.04 ft, datum of 1929 (to convert these records to supplementary adjustment of 1956, add 0.25 ft).

EXTREMES.--1926-67: Maximum elevation observed, 3,848.75 ft June 1926; minimum observed, 3,783.9 ft Feb. 6, Mar. 6, 1967.

The highest elevation observed since 1867 was 3,884.9 ft in 1871.

REVISIONS.--Elevations published in annual reports for 1962 to 1966 have been adjusted for subsidence of reference marks in accordance with releveing of July 1967 (maximum adjustment, -1.2 ft). WSP 1927 will contain elevations so adjusted. Adjusted elevations for water year 1966 are given herewith:

Oct. 5.....	3,787.2	Apr. 1.....	3,787.2
Nov. 5.....	3,787.1	May 5.....	3,787.0
Dec. 7.....	3,787.1	June 6.....	3,786.6
Jan. 6.....	3,787.1	July 5.....	3,786.4
Feb. 2.	3,787.1	Aug. 4.....	3,786.2
Mar. 3.....	3,787.2	Sept. 2.....	3,785.3

ELEVATION, IN FEET, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Oct. 5.....	3,784.8	Apr. 5.....	3,784.5
Nov. 2.....	3,784.4	May 2.....	3,784.7
Dec. 7.....	3,784.1	June 8.....	3,787.2
Jan. 12.....	3,784.1	July 6.....	3,788.9
Feb. 6.....	3,783.9	July 17.....	3,789.0
Mar. 6.....	3,783.9	Aug. 15.....	3,788.8
		Sept. 6.....	3,788.5

NOTE.--Elevations observed prior to July 17 were adjusted for subsidence of reference marks (maximum adjustment, -1.2 ft).

PYRAMID AND WINNEMUCCA LAKES BASIN

521

10-3366. UPPER TRUCKEE RIVER NEAR MEYERS, CALIF.

LOCATION.--Lat 38°50'35", long 120°01'25", in NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.31, T.12 N., R.18 E., 0.4 mile upstream from mouth of Echo Lake outlet, 1.1 miles southwest of Meyers, and 2.5 miles upstream from Angora Creek.

DRAINAGE AREA.--33.1 sq mi.

RECORDS AVAILABLE.--October 1960 to September 1967.

GAGE.--Digital water-stage recorder. Datum of gage is 6,325 ft (from topographic map). Prior to Feb. 25, 1964, graphic water-stage recorder.

AVERAGE DISCHARGE.--7 years, 64.8 cfs (46,910 acre-ft per year).

EXTREMES.--Maximum discharge during year, 801 cfs June 17 (gage height, 8.66 ft); minimum, 3.1 cfs Oct. 1, 1960-67: Maximum discharge, 2,550 cfs Feb. 1, 1963 (gage height, 12.41 ft); minimum, 2.0 cfs Jan. 13, 1961.

REMARKS.--Records good except those for winter months, which are poor. No regulation. Some small diversions for domestic use above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	3.3	4.0	22	15	31	23	40	30	251	558	70	21
2	3.4	3.9	25	14	29	24	38	33	208	546	62	21
3	3.5	3.9	25	14	26	25	38	35	220	531	57	21
4	3.5	3.9	18	14	25	24	37	39	279	484	52	21
5	3.6	4.0	26	15	24	23	36	37	320	454	47	21
6	3.6	4.2	80	12	24	22	35	38	305	405	43	20
7	3.6	4.7	60	12	23	22	36	63	349	351	40	19
8	3.5	5.3	45	14	23	23	35	106	375	310	39	18
9	3.5	4.9	30	15	23	25	35	136	403	271	40	18
10	3.5	4.7	30	15	23	26	36	99	427	242	39	17
11	3.4	5.1	25	15	21	25	34	73	432	233	38	16
12	3.6	4.9	20	15	24	23	33	61	413	222	35	16
13	3.6	4.7	19	15	26	21	34	62	387	216	33	15
14	3.7	4.9	19	15	26	20	35	76	394	208	33	15
15	3.8	5.5	18	15	27	20	35	123	455	195	33	15
16	4.1	15	18	16	27	180	33	193	543	184	33	15
17	3.9	9.8	17	15	23	207	33	263	620	168	37	15
18	3.9	8.0	18	15	23	97	34	286	632	155	39	23
19	3.8	7.8	18	15	23	71	33	306	548	138	33	19
20	3.7	15	20	16	23	61	32	364	540	123	33	16
21	3.7	10	17	25	24	57	31	454	581	113	30	15
22	4.0	9.2	15	20	22	57	31	510	566	105	30	15
23	3.9	8.6	15	15	22	57	31	531	535	100	31	15
24	4.0	8.6	14	15	22	51	30	540	525	94	36	17
25	3.9	8.3	15	15	22	46	30	557	575	87	45	15
26	3.9	7.8	14	20	21	45	30	561	587	79	45	14
27	3.9	7.8	13	25	21	43	31	519	576	68	33	13
28	4.0	31	13	31	22	52	30	462	574	64	29	13
29	3.9	46	14	63	-----	48	29	410	575	63	26	14
30	4.0	28	15	45	-----	43	29	373	586	93	24	13
31	3.9	-----	14	35	-----	42	-----	331	-----	85	23	-----
TOTAL	115.6	289.5	712	601	670	1,503	1,004	7,671	13,781	6,945	1,188	506
MEAN	3.73	9.65	23.0	19.4	23.9	48.5	33.5	247	459	224	38.3	16.9
MAX	4.1	46	80	63	31	207	40	561	632	558	70	23
MIN	3.3	3.9	13	12	21	20	29	30	208	63	23	13
AC-FT	229	574	1,410	1,190	1,330	2,980	1,990	15,220	27,330	13,780	2,360	1,000

CAL YR 1966: TOTAL 14,740.9 MEAN 40.4 MAX 263 MIN 3.2 AC-FT 29,240
WAT YR 1967: TOTAL 34,986.1 MEAN 95.9 MAX 632 MIN 3.3 AC-FT 69,390

Peak discharge (base, 200 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-16	2400	7.15	388	6-17	2000	8.66	801
5-24	2045	8.48	744	7-30	1530	6.07	208

PYRAMID AND WINNEMUCCA LAKES BASIN

10-3366.6. BLACKWOOD CREEK NEAR TAHOE CITY, CALIF.

LOCATION.--Lat 39°06'27", long 120°09'37", in NE¼ sec.36, T.15 N., R.16 E., on left bank just downstream from bridge on State Highway 89, 700 ft upstream from Lake Tahoe, and 4.6 miles south of Tahoe City.

DRAINAGE AREA.--11.2 sq mi.

RECORDS AVAILABLE.--October 1960 to September 1967.

GAGE.--Water-stage recorder. Altitude of gage is 6,235 ft (from topographic map). Prior to Oct. 1, 1964 at datum 1.75 ft higher.

AVERAGE DISCHARGE.--7 years, 34.5 cfs (24,980 acre-ft per year).

EXTREMES.--Maximum discharge during year, 1,670 cfs Mar. 16 (gage height, 7.84 ft); minimum, 1.3 cfs Sept. 12. 1960-67: Maximum discharge, 2,100 cfs Dec. 22 or 24, 1964, from indirect measurement of peak flow; maximum gage height, 9.90 ft Dec. 22, 1964; minimum discharge, 0.4 cfs Aug. 14, 1961.

REMARKS.--Records fair. No known diversion or regulation.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.5	5.0	25	9.9	24	21	23	14	112	221	24	3.4
2	1.5	6.8	27	9.4	20	23	22	14	98	206	21	3.4
3	1.6	1.5	27	9.9	18	24	22	15	105	179	21	3.4
4	2.1	1.6	20	11	16	23	22	15	123	170	19	3.7
5	2.8	1.8	25	9.9	16	22	21	15	148	165	18	3.7
6	2.4	3.7	25	8.5	17	20	20	16	153	156	14	3.7
7	2.4	4.0	23	9.0	18	21	20	23	168	133	15	3.1
8	3.1	4.0	18	9.9	18	23	20	41	179	125	12	2.8
9	3.7	3.7	15	9.9	18	24	21	56	182	118	12	2.8
10	4.4	4.4	16	10	18	25	21	40	197	103	12	2.4
11	3.4	5.0	15	11	18	24	20	29	191	101	9.9	2.1
12	4.0	5.0	14	12	17	22	20	24	179	99	9.4	1.8
13	4.7	4.7	14	11	18	21	21	26	173	99	8.1	1.8
14	5.4	4.0	13	12	19	20	21	34	188	85	8.1	1.8
15	6.8	7.6	13	13	16	20	21	55	215	83	8.1	1.8
16	6.8	16	13	13	17	914	20	88	245	80	8.1	1.6
17	7.2	11	13	7.6	19	420	18	133	296	70	7.6	1.6
18	6.8	9.0	13	5.9	21	98	18	146	331	63	7.2	5.4
19	5.9	10	13	6.8	21	71	18	156	310	56	6.8	3.7
20	6.8	24	13	8.5	21	53	16	165	303	49	5.9	3.4
21	5.4	13	13	11	15	50	16	227	292	46	5.9	3.4
22	3.7	13	12	10	16	48	16	338	278	42	5.0	3.4
23	4.4	10	10	9.0	17	45	16	334	260	40	8.7	3.7
24	4.4	9.9	9.0	11	16	40	16	334	251	38	5.9	3.4
25	5.4	10	8.0	13	16	35	15	317	266	36	5.0	3.4
26	5.4	10	8.5	16	14	30	14	314	272	32	4.7	3.4
27	3.4	9.9	8.0	20	15	29	14	263	254	31	4.7	3.4
28	4.0	41	8.0	25	18	30	15	245	239	28	4.4	3.1
29	4.0	60	8.5	45	---	28	14	218	236	28	3.7	3.1
30	4.4	25	9.0	35	---	26	14	197	239	29	3.7	3.1
31	4.4	---	9.0	28	---	25	---	159	---	29	3.4	---
Total	132.2	334.6	458.0	421.2	497	2,275	555	4,051	6,483	2,740	302.3	90.8
Mean	4.26	11.2	14.8	13.6	17.8	73.4	18.5	131	216	88.4	9.75	3.03
Max	7.2	60	27	45	24	914	23	338	331	221	24	3.7
Min	1.5	1.5	8.0	5.9	14	20	14	14	98	28	3.4	1.6
Ac-ft	262	664	908	835	986	4,510	1,100	8,040	12,860	5,430	600	180

Cal yr 1966: Total 8,748.0 Mean 24.0 Max 158 Min 1.1 Ac-ft 17,360
Wtr yr 1967: Total 18,340.1 Mean 50.2 Max 914 Min 1.5 Ac-ft 36,380

Peak discharge (base, 200 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-16	1515	7.84	1,670	6-19	1815	6.30	424
5-22	1830	6.10	460				

PYRAMID AND WINNEMUCCA LAKES BASIN

523

10-3367.8. TROUT CREEK NEAR TAHOE VALLEY, CALIF.

LOCATION.--Lat 38°55'12", long 119°58'17", in SE $\frac{1}{4}$ sec.3, T.12 N., R.18 E., on left bank 15 ft downstream from Martin Ave. bridge, 500 ft upstream from Heavenly Valley Creek, and 1.8 miles east of Tahoe Valley.

DRAINAGE AREA.--36.7 sq mi.

RECORDS AVAILABLE.--October 1960 to September 1967.

GAGE.--Digital water-stage recorder. Altitude of gage is 6,250 ft (from topographic map). Prior to Feb. 24, 1965, graphic water-stage recorder.

AVERAGE DISCHARGE.--7 years, 34.2 cfs (24,760 acre-ft per year).

EXTREMES.--Maximum discharge during year, 280 cfs July 1 (gage height, 9.51 ft); minimum, 1.0 cfs Oct. 3. 1960-67: Maximum discharge, 535 cfs Feb. 1, 1963 (gage height, 11.14 ft), from rating curve extended above 110 cfs on basis of computation of peak flow (weir formula) and logarithmic projection. No flow for part of Sept. 11, 1966.

REMARKS.--Records good except those for periods of no gage-height record, which are poor. Minor diversion for local water supply.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	8.5	11	21	15	28	20	36	26	131	265	65	34
2	8.5	12	27	15	26	20	31	29	118	264	63	34
3	13	11	24	15	25	20	36	31	116	258	60	35
4	7.0	11	19	15	22	19	31	32	128	246	58	36
5	7.0	11	24	15	21	19	29	30	150	235	56	37
6	7.3	11	70	15	21	19	29	35	130	221	55	35
7	7.6	12	50	15	20	18	30	48	128	206	53	33
8	7.9	14	40	15	20	20	29	64	135	187	53	32
9	7.6	13	30	15	20	20	31	76	133	171	53	31
10	7.6	14	25	15	19	20	31	61	135	154	52	31
11	7.6	13	25	15	20	17	29	49	142	141	50	30
12	7.6	13	21	15	20	16	28	44	143	134	48	30
13	7.6	12	18	15	21	15	29	47	139	125	47	29
14	8.2	13	18	17	21	15	30	58	135	118	47	29
15	11	13	18	17	21	90	30	75	145	119	47	28
16	11	22	18	18	21	151	30	96	158	119	48	28
17	11	16	18	17	20	113	30	121	179	107	45	28
18	12	14	18	17	20	70	30	128	200	99	44	42
19	12	14	19	17	20	55	29	137	198	94	43	34
20	12	21	20	19	20	48	28	160	201	88	42	29
21	11	16	19	25	20	44	27	188	219	83	42	28
22	12	17	18	20	20	43	27	213	226	82	39	29
23	12	25	17	15	20	44	27	228	226	79	39	30
24	12	32	16	15	20	40	26	233	229	76	41	30
25	12	34	15	15	19	37	26	232	238	73	46	28
26	12	20	15	17	19	35	26	219	248	72	46	26
27	12	19	15	20	19	35	27	212	250	69	40	26
28	13	37	15	30	19	40	26	198	253	70	38	25
29	12	35	15	45	-----	41	26	185	258	70	37	27
30	12	21	15	35	-----	34	26	173	265	71	36	28
31	12	-----	15	30	-----	33	-----	160	-----	71	35	-----
TOTAL	314.0	527	698	584	582	1,211	870	3,588	5,356	4,167	1,468	922
MEAN	10.1	17.6	22.5	18.8	20.8	39.1	29.0	116	179	134	47.4	30.7
MAX	13	37	70	45	28	151	36	233	265	265	65	42
MIN	7.0	11	15	15	19	15	26	26	116	69	35	25
AC-FT	623	1,050	1,380	1,160	1,150	2,400	1,730	7,120	10,620	8,270	2,910	1,830

CAL YR 1966: TOTAL 8,708.0 MEAN 23.9 MAX 72 MIN 3.4 AC-FT 17,270
 WAT YR 1967: TOTAL 20,287.0 MEAN 55.6 MAX 265 MIN 7.0 AC-FT 40,240

Peak discharge (base, 100 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-16	2400	8.74	255	7-1	0045	9.51	280
5-24	2230	9.38	272				

Note.--No gage-height record Dec. 6 to Jan. 10, Jan. 19 to Mar. 10, Apr. 14 to May 4.

PYRAMID AND WINNEMUCCA LAKES BASIN

10-3370. LAKE TAHOE AT TAHOE CITY, CALIF.

LOCATION.--Lat 39°10'04", long 120°08'23", in NE¼ sec.7, T.15 N., R.17 E., at Tahoe City, on pier 1,000 ft east of dam at lake outlet.

DRAINAGE AREA.--505 sq mi at lake outlet (revised).

RECORDS AVAILABLE.--April 1900 to September 1967. Month-end elevations only for October 1943 to September 1957, published in WSP 1734. Prior to October 1961, published as "at Tahoe."

GAGE.--Water-stage recorder. Datum of gage is 6,220.00 ft above mean sea level, datum of Bureau of Reclamation (6,218.86 ft, datum of 1929, supplementary adjustment of 1959). Prior to Oct. 1, 1957, staff gages at several sites near outlet of lake at same datum. Oct. 1, 1957, to May 8, 1958, water-stage recorder on left wingwall of dam at outlet of lake at same datum.

EXTREMES.--Maximum elevation during year, 6,228.86 ft July 6, 8, 16, 19; minimum, 6,225.62 ft Nov. 15.
1900-1967: Maximum elevation, 6,231.26 ft July 14, 15, 17, 18, 1907; minimum, 6,221.74 ft Dec. 26, 1934.

REMARKS.--Lake levels regulated by a 17-gate concrete dam at outlet of lake; storage began 1874. Figures given herein represent usable contents. Usable capacity, 744,600 acre-ft between elevations 6,223 (natural rim of lake) and 6,229.1 ft (maximum permissible elevation by Federal Court decree). Water is used for domestic and recreational purposes in Lake Tahoe area and for irrigation and power in downstream areas. Lake elevations are referred to Bureau of Reclamation datum because that datum is used as the official reference point by all local, state, and federal agencies. One intermittent transmountain diversion from Echo Lake to South Fork American River for power and irrigation.

CAPACITY TABLE (ELEVATION, IN FEET, AND CONTENTS, IN ACRE-FEET)

6,225	243,000
6,227	486,800
6,229	732,300

ELEVATION, IN FEET, AT 2400 HOURS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.36	5.83	5.76	5.98	6.74	6.70	7.44	7.65	8.15	8.83	8.78	8.42
2	6.35	5.82	5.85	5.99	6.75	6.69	7.44	7.64	8.17	8.83	8.77	8.40
3	6.34	5.81	5.85	5.99	6.75	6.70	7.44	7.64	8.17	8.83	8.77	8.39
4	6.30	5.80	5.87	5.95	6.75	6.69	7.44	7.63	8.19	8.83	8.75	8.40
5	6.27	5.76	6.03	5.95	6.75	6.68	7.45	7.63	8.26	8.83	8.72	8.38
6	6.26	5.77	6.15	5.97	6.75	6.68	7.49	7.62	8.27	8.82	8.72	8.37
7	6.25	5.73	6.13	5.95	6.75	6.67	7.52	7.62	8.29	8.83	8.69	8.35
8	6.25	5.75	6.15	5.93	6.75	6.67	7.52	7.62	8.32	8.82	8.70	8.33
9	6.25	5.70	6.15	5.94	6.74	6.65	7.50	7.65	8.33	8.83	8.68	8.30
10	6.23	5.70	6.15	5.93	6.74	6.65	7.51	7.67	8.36	8.82	8.68	8.30
11	6.20	5.67	6.14	5.93	6.74	6.78	7.52	7.67	8.37	8.83	8.65	8.28
12	6.17	5.66	6.15	5.94	6.74	6.90	7.52	7.67	8.40	8.81	8.65	8.25
13	6.15	5.63	6.14	5.94	6.75	7.00	7.53	7.67	8.43	8.81	8.65	8.23
14	6.11	5.64	6.14	5.93	6.74	6.98	7.55	7.67	8.45	8.82	8.64	8.22
15	6.10	5.65	6.14	5.93	6.74	7.02	7.55	7.67	8.48	8.84	8.65	8.19
16	6.05	5.70	6.14	5.91	6.74	7.18	7.55	7.68	8.50	9.85	8.62	8.18
17	6.05	5.67	6.14	5.92	6.74	7.19	7.60	7.70	8.53	8.83	8.64	8.16
18	6.04	5.66	6.15	5.92	6.74	7.20	7.63	7.71	8.56	8.83	8.60	8.22
19	6.00	5.69	6.15	5.92	6.75	7.21	7.63	7.73	8.60	8.82	8.60	8.17
20	5.98	5.70	6.14	6.02	6.72	7.23	7.62	7.76	8.60	8.82	8.58	8.17
21	5.94	5.72	6.12	6.31	6.72	7.23	7.61	7.80	8.63	8.81	8.56	8.17
22	5.94	5.73	6.11	6.33	6.72	7.23	7.61	7.83	8.65	8.81	8.57	8.15
23	5.91	5.70	6.10	6.32	6.72	7.27	7.62	7.88	8.68	8.80	8.53	8.15
24	5.93	5.70	6.10	6.47	6.70	7.27	7.62	7.92	8.70	8.80	8.52	8.15
25	5.90	5.68	6.09	6.47	6.70	7.26	7.62	7.97	8.73	8.79	8.52	8.15
26	5.90	5.67	6.07	6.50	6.70	7.27	7.61	8.02	8.75	8.78	8.50	8.13
27	5.87	5.66	6.05	6.51	6.70	7.28	7.64	8.06	8.76	8.79	8.49	8.13
28	5.87	5.71	6.05	6.56	6.70	7.35	7.64	8.08	8.78	8.80	8.47	8.12
29	5.85	5.74	6.03	6.65	-----	7.37	7.65	8.10	8.80	8.80	8.46	8.11
30	5.85	5.72	6.00	6.72	-----	7.40	7.65	8.12	8.81	8.80	8.45	8.09
31	5.84	-----	6.00	6.74	-----	7.43	-----	8.15	-----	8.79	8.44	-----
(+)	345,300	330,700	364,800	455,100	450,200	539,500	566,400	627,800	708,900	706,500	663,400	620,400
(+)	-63,400	-14,600	+34,100	+90,300	-4,900	+89,300	+26,900	+61,400	+81,100	-2,400	-43,100	-43,000

Calendar year 1966 † -249,400

Water year 1967 † +211,700

† Contents, in acre-feet, at end of month.

‡ Change in contents, in acre-feet.

Note.--Add 6,220 to obtain elevation above Bureau of Reclamation datum.

10-3375. TRUCKEE RIVER AT TAHOE CITY, CALIF.

LOCATION.--Lat 39°10'00", long 120°08'40", in NE¼NW¼ sec.7, T.15 N., R.17 E., at Tahoe City, on left bank 510 ft downstream from dam at outlet of Lake Tahoe.

DRAINAGE AREA.--506 sq mi (revised).

RECORDS AVAILABLE.--July 1895 to February 1896, March 1900 to September 1967. Monthly discharge only for some periods, published in WSP 1314 and 1734. Prior to October 1961, published as "at Tahoe."

GAGE.--Water-stage recorder. Datum of gage is 6,216.75 ft above mean sea level, datum of 1929. Prior to Nov. 12, 1912, staff gage at site 370 ft upstream at different datum. Nov. 12, 1912, to Sept. 30, 1937, staff gage, Oct. 1, 1937, to Aug. 21, 1957, water-stage recorder at datum 2.26 ft higher and Aug. 22, 1957, to July 10, 1960, at datum 2.42 ft higher; all at site 270 ft upstream.

AVERAGE DISCHARGE.--67 years (1900-1967), 238 cfs (172,300 acre-ft per year), unadjusted.

EXTREMES.--Maximum discharge during year, 1,560 cfs June 27 (gage height, 7.52 ft); minimum daily, 31 cfs Feb. 8, 11, 16.

1895-96, 1900-1967: Maximum discharge, 1,870 cfs Apr. 5, 6, 1958 (gage height, 7.30 ft, site and datum then in use); maximum gage height, 8.20 ft Nov. 30, 1965; no flow for parts of many years.

REMARKS.--Records good. Flow regulated by Lake Tahoe (operating capacity, 744,600 acre-ft).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	316	249	55	142	43	76	57	74	986	1,500	210	234
2	304	197	56	143	38	102	56	207	986	1,500	210	234
3	293	199	54	143	33	79	57	436	978	1,500	201	251
4	295	199	53	144	33	58	57	609	974	1,500	201	267
5	240	199	55	146	33	57	56	716	926	1,500	201	265
6	126	199	56	146	32	57	56	800	1,020	1,500	199	183
7	92	200	53	146	32	58	67	782	1,020	1,340	199	62
8	92	194	52	146	31	58	69	744	1,020	1,290	199	62
9	91	194	52	146	32	59	69	744	1,040	1,290	308	62
10	246	192	52	152	32	60	68	748	1,030	1,240	349	66
11	214	192	52	158	31	58	68	744	1,020	1,020	330	76
12	204	194	52	161	32	73	68	744	1,030	980	296	76
13	200	192	51	162	33	94	69	744	1,030	638	238	75
14	202	191	51	161	32	65	70	758	1,030	353	298	73
15	202	191	51	162	32	59	70	986	1,050	196	370	73
16	202	191	50	162	31	73	70	1,080	1,200	158	380	73
17	222	189	50	162	37	67	71	1,080	1,260	132	380	74
18	293	162	50	162	48	63	72	1,070	1,260	131	385	74
19	316	143	50	162	47	61	72	1,070	1,270	129	385	72
20	316	144	101	164	46	61	72	1,070	1,260	129	385	72
21	314	144	221	173	46	61	72	1,070	1,190	129	385	73
22	314	144	212	176	46	63	72	946	1,050	125	385	73
23	314	144	168	137	46	63	72	531	1,010	121	383	73
24	312	143	143	111	46	60	72	492	1,070	121	380	73
25	312	143	142	111	46	60	72	492	1,060	122	378	73
26	312	142	140	112	47	60	72	489	1,130	122	378	73
27	310	142	140	111	40	60	73	549	1,460	121	372	73
28	310	176	140	94	36	60	73	748	1,500	121	375	73
29	310	144	140	48	---	59	74	870	1,490	118	372	73
30	308	53	140	46	---	58	74	994	1,490	118	275	73
31	308	---	140	44	---	58	---	998	---	135	234	---
Total	7,890	5,186	2,822	4,233	1,061	2,000	2,040	23,385	33,840	19,379	9,641	31,54
Mean	255	173	91.0	137	37.9	64.5	68.0	754	1,128	625	311	105
Max	316	249	221	176	48	102	74	1,080	1,500	1,500	385	267
Min	91	53	50	44	31	57	56	74	926	118	199	62
Ac-ft	15,650	10,290	5,600	8,400	2,100	3,970	4,050	46,380	67,120	38,440	19,120	6,260
Cal yr 1966: Total	82,699		Mean	227	Max	1,040	Min	24	Ac-ft	164,000		
Wtr yr 1967: Total	114,631		Mean	314	Max	1,500	Min	31	Ac-ft	227,400		

PYRAMID AND WINNEMUCCA LAKES BASIN

10-3385. DONNER CREEK AT DONNER LAKE, NEAR TRUCKEE, CALIF.

LOCATION.--Lat 39°19'25", long 120°14'00", in SW¼NW¼ sec.17, T.17 N., R.16 E., on left bank 10 ft downstream from bridge on Donner Memorial State Park road, 0.2 mile downstream from Donner Lake outlet, 0.7 mile upstream from Cold Creek, and 2.5 miles west of Truckee.

DRAINAGE AREA.--14.6 sq mi (revised).

RECORDS AVAILABLE.--November 1909 to August 1910, January 1929 to October 1935, January 1936 to March 1938, July to October 1938, January 1939 to February 1943, June 1943 to December 1953, May 1955 to December 1957, October 1958 to September 1967. Monthly discharge only prior to October 1958, published in WSP 1314 and 1734.

GAGE.--Water-stage recorder. Altitude of gage is 5,930 ft (from topographic map). Nov. 1, 1909, to Aug. 31, 1910, staff gage at different datum. January 1929 to December 1957, water-stage recorder at same site at unknown datum.

AVERAGE DISCHARGE.--30 years (1929-35, 1936-37, 1939-42, 1943-52, 1955-57, 1958-67), 31.9 cfs (23,090 acre-ft per year), unadjusted.

EXTREMES.--Maximum discharge during year, 428 cfs May 24 (gage height, 4.05 ft); no flow Oct. 27, 31, Nov. 1-4. 1909-10, 1929-53, 1955-57, 1958-67: Maximum daily discharge, 700 cfs (estimated) Nov. 21, 1950; maximum gage height observed, 4.55 ft Dec. 25, 1964; no flow at times 1960-62, 1965, 1967.

REMARKS.--Records good. Flow regulated by dam at outlet of Donner Lake (usable capacity, 9,500 acre-ft).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.20	0	57	28	74	31	74	34	280	53	7.4	26
2	.10	0	62	26	70	32	69	34	177	54	6.7	25
3	71	0	67	25	66	33	66	34	141	69	6.7	25
4	111	0	63	24	61	33	62	35	143	79	17	25
5	138	11	75	24	58	32	59	37	120	78	25	25
6	168	15	83	23	54	32	57	38	111	64	25	24
7	151	1.6	80	22	52	31	56	42	120	32	25	24
8	127	7.1	74	22	50	31	54	51	127	18	25	24
9	108	9.0	69	20	48	32	52	67	136	16	24	24
10	93	1.5	67	20	47	34	51	80	143	25	22	24
11	82	1.4	62	20	44	39	50	82	149	65	22	24
12	73	1.2	58	20	44	46	49	80	155	90	22	24
13	64	1.2	56	19	44	53	47	79	184	69	22	24
14	59	17	53	18	45	51	47	79	193	27	20	24
15	52	28	23	18	44	49	48	84	191	3.1	20	23
16	46	33	2.5	18	42	76	46	67	193	3.8	16	23
17	42	33	2.9	18	41	125	45	24	195	7.0	18	23
18	38	32	3.1	18	39	138	48	22	200	12	19	100
19	35	31	3.1	18	38	134	47	70	203	14	19	179
20	31	39	3.1	20	37	127	45	91	205	14	19	225
21	30	45	29	23	36	119	44	151	210	16	18	198
22	30	46	56	55	35	113	42	247	210	16	18	172
23	28	43	51	40	34	110	40	373	188	16	18	145
24	25	42	47	43	34	105	40	416	179	17	23	125
25	9.8	39	44	44	34	97	38	398	179	14	27	108
26	.20	36	41	44	33	91	37	390	168	10	27	93
27	0	32	37	44	32	86	37	384	91	8.6	27	102
28	.90	36	35	47	31	83	36	373	54	8.2	27	111
29	.50	52	33	64	-----	80	35	359	52	7.4	26	96
30	.10	56	30	73	-----	78	36	340	53	7.4	25	80
31	0	-----	29	76	-----	76	-----	317	-----	7.4	26	-----
Total	1,613.80	689.0	1,395.7	974	1,267	2,197	1,457	4,878	4,750	920.9	642.8	2,145
Mean	52.1	23.0	45.0	31.4	45.2	70.9	48.6	157	158	29.7	20.7	71.5
Max	168	56	83	76	74	138	74	416	280	90	27	225
Min	0	0	2.5	18	31	31	35	22	52	3.1	6.7	23
Ac-ft	3,200	1,370	2,770	1,930	2,510	4,360	2,890	9,680	9,420	1,830	1,270	4,250

Cal yr 1966: Total 8,797.40 Mean 24.1 Max 168 Min 0 Ac-ft 17,450
 Wtr yr 1967: Total 22,930.20 Mean 62.8 Max 416 Min 0 Ac-ft 45,480

PYRAMID AND WINNEMUCCA LAKES BASIN

527

10-3394. MARTIS CREEK NEAR TRUCKEE, CALIF.

LOCATION.--Lat 39°20'20", long 120°07'00", in SE $\frac{1}{4}$ NW $\frac{1}{4}$ sec.8, T.17 N., R.17 E., on left bank three-quarters of a mile upstream from mouth and 3.5 miles northeast of Truckee.

DRAINAGE AREA.--41.0 sq mi (revised).

RECORDS AVAILABLE.--October 1958 to September 1967.

GAGE.--Digital water-stage recorder. Altitude of gage is 5,700 ft (from topographic map). Prior to July 24, 1964, graphic water-stage recorder.

AVERAGE DISCHARGE.--9 years, 20.9 cfs (15,130 acre-ft per year).

EXTREMES.--Maximum discharge during year, 680 cfs Mar. 16 (gage height, 4.44 ft); minimum, 3.3 cfs Oct. 1-4, 1958-67; Maximum discharge, 1,880 cfs Feb. 1, 1963 (gage height, 6.16 ft); minimum, 1.1 cfs July 19, 20, 1961.

REMARKS.--Records good except those for winter months, which are poor.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	3.5	6.3	27	12	65	26	53	41	149	33	12	9.2
2	3.5	6.9	65	11	56	30	46	51	130	30	12	8.9
3	3.6	6.9	37	10	48	26	44	64	121	28	12	10
4	3.6	6.8	22	10	42	24	42	69	124	26	11	13
5	3.7	6.9	81	10	38	23	39	69	174	24	10	13
6	3.8	8.8	58	9.0	34	22	38	87	141	23	9.6	11
7	3.9	8.9	44	9.4	35	23	38	119	133	22	9.6	9.9
8	4.1	8.6	32	9.8	32	26	43	171	131	20	10	9.7
9	4.6	7.5	25	10	28	34	50	229	127	19	10	9.7
10	4.4	7.7	22	10	25	25	47	194	116	19	9.7	10
11	4.0	7.9	20	11	27	24	39	141	110	18	9.6	9.1
12	3.8	7.6	19	11	24	25	45	131	113	17	9.2	8.8
13	3.9	7.4	18	11	27	24	48	142	118	17	8.9	9.1
14	4.1	7.1	17	10	25	22	51	161	99	17	8.9	9.0
15	4.3	8.6	16	9.0	20	20	47	190	93	20	11	8.7
16	4.4	34	15	8.0	22	333	42	236	91	20	11	9.0
17	4.4	12	14	7.7	23	343	44	285	90	18	10	9.6
18	4.7	9.6	12	7.8	22	209	43	301	90	16	11	22
19	4.8	9.9	12	8.0	22	138	39	295	93	15	9.9	11
20	5.2	27	13	9.0	20	118	38	307	86	15	9.2	10
21	5.3	16	13	18	18	116	36	325	79	14	9.9	9.6
22	5.8	15	13	16	19	109	36	337	73	13	9.6	9.5
23	6.3	14	12	14	20	118	36	334	69	12	10	9.7
24	6.2	13	11	13	19	96	37	316	62	13	12	11
25	6.1	12	10	14	18	82	36	301	58	13	16	10
26	6.0	12	12	20	19	73	38	273	54	12	18	9.0
27	6.1	15	11	30	18	79	41	258	50	13	13	8.6
28	6.2	67	10	35	22	82	38	234	45	13	11	8.2
29	6.2	50	11	45	-----	66	35	209	41	12	10	8.2
30	6.1	19	12	75	-----	55	39	188	37	14	10	9.0
31	6.2	-----	11	70	-----	52	-----	192	-----	13	9.6	-----
TOTAL	148.8	439.4	695	543.7	788	2,140	1,248	6,250	2,897	559	333.7	303.5
MEAN	4.80	14.6	22.4	17.5	28.1	69.0	41.6	202	96.6	18.0	10.8	10.1
MAX	6.3	67	81	75	65	343	53	337	174	33	18	22
MIN	3.5	6.3	10	7.7	18	20	35	41	37	12	8.9	8.2
AC-FT	295	872	1,380	1,080	1,560	4,240	2,480	12,400	5,750	1,110	662	602

CAL YR 1966: TOTAL 4,945.5 MEAN 13.5 MAX 91 MIN 1.9 AC-FT 9,810
WAT YR 1967: TOTAL 16,346.1 MEAN 44.8 MAX 343 MIN 3.5 AC-FT 32,420

Peak discharge (base, 170 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-28	1630	2.80	180	5- 9	1800	3.30	313
12- 5	0345	3.08	241	5-22	2030	3.56	391
3-16	1400	4.44	680	6- 5	0845	2.90	198

PYRAMID AND WINNEMUCCA LAKES BASIN

10-3399. ALDER CREEK NEAR TRUCKEE, CALIF.

LOCATION.--Lat 39°22'10", long 120°10'50", in SE¼NE¼ sec.34, T.18 N., R.16 E., on right bank 2 miles upstream from mouth and 2.5 miles north of Truckee.

DRAINAGE AREA.--7.47 sq mi (revised).

RECORDS AVAILABLE.--October 1958 to September 1967.

GAGE.--Water-stage recorder. Altitude of gage is 5,800 ft (from topographic map).

AVERAGE DISCHARGE.--9 years, 8.57 cfs (6,200 acre-ft per year).

EXTREMES.--Maximum discharge during year, 212 cfs May 24 (gage height, 2.99 ft); minimum, 0.6 cfs Nov. 9.

1958-67: Maximum discharge, 730 cfs Jan. 31, 1963 (gage height, 5.86 ft), from rating curve extended above 36 cfs on basis of computation of peak flow through culvert; no flow for some periods in most years.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.2	1.2	6.0	2.0	13	7.8	13	6.6	73	23	3.3	2.0
2	1.2	1.2	7.0	1.9	13	8.3	13	7.3	64	21	3.3	2.0
3	1.2	1.2	7.0	1.8	10	9.3	11	8.6	67	18	3.3	2.0
4	1.3	1.2	5.1	1.7	9.3	9.0	11	11	70	15	3.1	2.3
5	1.3	1.2	9.7	1.6	8.3	9.0	10	12	87	13	3.0	2.6
6	1.3	1.7	11	1.5	7.8	8.6	9.3	16	82	11	3.0	2.3
7	1.3	1.6	7.6	1.5	7.3	8.6	9.0	25	84	10	3.0	2.2
8	1.3	1.6	5.8	1.5	7.0	9.0	9.3	40	82	9.7	2.8	2.0
9	1.4	1.2	5.3	1.5	6.8	9.3	9.3	59	79	9.7	2.8	1.8
10	1.3	1.3	5.1	1.5	6.8	10	9.3	54	77	8.0	2.6	1.8
11	1.2	1.4	4.7	1.5	6.6	10	9.0	43	75	7.8	2.8	1.7
12	1.1	1.4	4.5	1.5	6.8	11	8.6	38	77	7.0	2.8	1.8
13	1.1	1.4	4.3	1.6	7.6	10	9.0	40	75	6.8	2.6	1.7
14	1.2	1.3	4.3	1.6	7.8	9	9.0	47	67	6.6	2.6	1.7
15	1.3	2.2	4.9	1.6	7.6	7	9.0	60	63	6.6	2.6	1.7
16	1.3	4.3	5.0	1.6	7.3	25	9.0	78	62	6.6	2.6	1.7
17	1.1	2.6	4.8	1.6	7.3	70	8.3	100	62	6.0	2.6	1.8
18	1.1	2.0	4.5	1.7	7.3	48	8.6	107	62	5.6	2.8	3.6
19	1.2	1.7	4.2	1.8	7.3	36	8.3	112	58	5.4	2.8	2.3
20	1.3	4.7	3.8	2.0	7.3	31	8.0	124	54	5.1	2.5	1.8
21	1.3	2.8	3.5	5.0	7.2	29	7.8	140	53	4.9	2.2	1.8
22	1.3	2.5	3.4	6.0	6.6	29	7.6	149	48	4.7	2.0	1.7
23	1.3	2.2	3.2	5.4	6.6	29	7.3	154	45	4.5	2.0	1.7
24	1.3	2.0	3.0	3.6	6.6	26	7.0	156	42	4.3	2.5	2.0
25	1.2	1.9	2.8	3.4	6.6	24	6.6	147	39	3.8	2.6	2.0
26	1.1	1.8	2.6	4.3	6.8	23	6.3	142	37	3.8	3.0	1.6
27	1.2	1.7	2.4	5.4	6.8	21	6.6	137	34	3.6	2.5	1.6
28	1.2	4.9	2.3	7.0	7.0	20	6.6	132	31	3.6	2.3	1.6
29	1.2	9.7	2.2	9.0	-----	18	6.6	121	28	3.6	2.2	1.6
30	1.2	5.4	2.1	11	-----	16	6.0	112	26	3.6	2.0	1.6
31	1.2	-----	2.1	13	-----	14	-----	93	-----	3.4	2.0	-----
Total	38.2	71.3	144.2	106.1	216.4	595.7	259.4	2,471.5	1,803	2,45.7	82.2	58.0
Mean	1.23	2.38	4.65	3.42	7.73	19.2	8.65	79.7	60.1	7.93	2.65	1.93
Max	1.4	9.7	11	13	13	70	13	156	87	23	3.3	3.6
Min	1.1	1.2	2.1	1.5	6.6	7.8	6.0	6.6	26	3.4	2.0	1.6
Ac-ft	76	141	286	210	429	1,180	515	4,900	3,580	487	163	115

Cal yr 1966: Total 2,151.2 Mean 5.89 Max 39 Min 0.50 Ac-ft 4,270

Wtr yr 1967: Total 6,091.7 Mean 16.7 Max 156 Min 1.1 Ac-ft 12,080

Peak discharge (base, 25 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-17	1230	2.27	83	5-24	1815	2.99	212
5-9	1900	2.22	75	6-7	1830	2.39	107

PYRAMID AND WINNEMUCCA LAKES BASIN

529

10-3403. PROSSER CREEK RESERVOIR NEAR BOCA, CALIF.

LOCATION.--Lat 39°22'45", long 120°08'25", in NW¼SW¼ sec.30, T.18 N., R.17 E., in control house at Prosser Creek Dam, 1.5 miles upstream from mouth of Prosser Creek, and 3 miles west of Boca.

DRAINAGE AREA.--50 sq mi, approximately.

RECORDS AVAILABLE.--January 1963 to September 1967.

GAGE.--Water-stage recorder with surface follower and telemark. Datum of gage is at mean sea level (levels by Bureau of Reclamation).

EXTREMES.--Maximum contents observed during year, 29,380 acre-ft Aug. 2 (elevation, 5,742.17 ft); minimum observed, 7,400 acre-ft Dec. 30 (elevation, 5,699.87 ft).

1963-67: Maximum contents observed, 30,760 acre-ft May 22, 1963 (elevation, 5,743.95 ft); minimum observed, 6,500 acre-ft Feb. 19, 1965 (elevation, 5,696.85 ft).

REMARKS.--Reservoir is formed by rolled-earth and rock-fill dam. Storage began Jan. 30, 1963. Usable capacity, 28,640 acre-ft between elevations, 5,660.6 (top of inactive storage) and 5,741.2 ft (spillway crest). Inactive storage, 1,200 acre-ft (includes 83 acre-ft dead storage) below elevation 5,660.6 ft. Elevation of streambed at dam axis, 5,622 ft. Figures given herein represent usable contents. Reservoir is used for flood control, enhancement of fishery, and recreation.

COOPERATION.--Records furnished by Bureau of Reclamation.

MONTH-END ELEVATIONS AND CONTENTS, AT 0800 HOURS, OCTOBER 1966 TO SEPTEMBER 1967

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Oct. 31	5,701.90	8,040	-110
Nov. 30	5,703.05	8,410	+370
Dec. 31	5,699.92	7,410	-1,000
Calendar year 1966	-	-	-940
Jan. 31	5,702.66	8,280	+870
Feb. 28	5,701.38	7,870	-410
Mar. 31	5,701.36	7,860	-10
Apr. 30	5,709.71	10,830	+2,970
May 31	5,724.47	17,800	+6,970
June 30	5,726.33	18,850	+1,050
July 31	5,742.13	29,350	+10,500
Aug. 31	5,741.34	28,750	-600
Sept. 30	5,724.61	17,880	-10,870
Water year 1966-67	-	-	+9,730

PYRAMID AND WINNEMUCCA LAKES BASIN

10-3405. PROSSER CREEK NEAR BOCA, CALIF.

LOCATION.--Lat 39°22'10", long 120°07'10", in SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec.32, T.18 N., R.17 E., on left bank a quarter of a mile upstream from mouth and 2 miles southwest of Boca.

DRAINAGE AREA.--53.6 sq mi (revised).

RECORDS AVAILABLE.--October 1902 to June 1903 (gage heights only), October 1942 to December 1950, June 1951 to September 1967. Records for April 1889 to November 1890, published in the 11th and 12th Annual Reports, Part 2, have been found to be unreliable and should not be used. Monthly discharge only for October 1942 to December 1950, published in WSP 1734.

GAGE.--Water-stage recorder. Datum of gage is 5,572.66 ft above mean sea level (levels by Bureau of Reclamation). April 1889 to November 1890 and October 1902 to June 1903, staff gages at same site at different datums. October 1942 to December 1950, water-stage recorder at approximately same site at different datum. June 1951 to September 1956, water-stage recorder at present site at datum 2.00 ft higher.

AVERAGE DISCHARGE.--24 years (1942-50, 1951-67), 83.5 cfs (60,450 acre-ft per year). Adjusted for storage.

EXTREMES.--Maximum daily discharge during year, 793 cfs May 20 (gage height, 4.73 ft); minimum daily, 9.9 cfs Oct. 10, Oct. 24 to Nov. 9.

1942-67: Maximum discharge, 4,560 cfs Dec. 23, 1955 (gage height, 10.13 ft, present datum), from rating curve extended above 910 cfs on basis of slope-area measurement of peak flow; maximum gage height, 11.0 ft, from floodmarks, (present datum) Nov. 20, 1950 (discharge, 4,320 cfs by slope-area measurement); minimum discharge, 0.4 cfs July 18, 1961, result of work on dam upstream.

REMARKS.--Records excellent. Flow regulated by Prosser Creek dam since Jan. 31, 1963.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	24	9.9	122	26	180	56	122	122	780	16	61	127
2	11	9.9	122	25	178	56	122	312	734	16	58	127
3	11	9.9	121	25	162	95	80	312	722	15	58	124
4	11	9.9	119	25	152	115	58	310	714	15	57	124
5	11	9.9	124	25	152	115	58	308	519	15	54	122
6	10	9.9	122	25	115	115	58	308	435	15	53	175
7	10	9.9	185	25	98	115	50	310	486	15	48	198
8	10	9.9	223	25	71	58	46	385	518	16	48	219
9	10	9.9	159	25	55	25	48	429	566	16	44	233
10	9.9	10	121	25	55	25	38	496	594	16	43	233
11	10	10	121	25	55	26	34	524	594	17	41	233
12	10	10	81	25	55	26	35	409	638	17	39	233
13	10	10	57	25	56	26	35	360	650	17	37	233
14	15	10	57	25	55	25	36	365	552	14	35	233
15	19	11	57	25	55	26	36	372	521	12	35	233
16	19	12	47	25	55	118	35	375	521	12	35	231
17	20	11	42	25	83	318	35	618	521	12	33	231
18	19	53	42	25	92	521	35	739	521	11	32	233
19	13	76	42	25	67	634	35	775	524	11	31	231
20	10	78	42	26	55	404	35	793	524	11	30	231
21	10	78	42	32	55	266	35	788	574	11	28	231
22	10	77	42	28	55	264	35	292	602	11	27	231
23	10	95	42	28	55	264	35	28	441	10	26	231
24	9.9	106	42	28	55	219	36	26	325	12	27	228
25	9.9	106	42	27	55	193	36	221	325	18	27	228
26	9.9	106	42	28	55	193	37	495	172	22	27	224
27	9.9	105	42	28	56	174	38	586	16	29	26	224
28	9.9	75	42	93	55	168	38	590	16	33	26	224
29	9.9	57	42	164	-----	150	38	682	16	36	24	224
30	9.9	97	31	172	-----	144	38	730	16	50	92	84
31	9.9	-----	26	180	-----	128	-----	766	-----	64	131	-----
Total	372.1	1,282.1	2,441	1,310	2,287	5,062	1,397	13,826	14,136	585	1,333	6,133
Mean	12.0	42.7	78.7	42.3	81.7	163	46.6	446	471	18.9	43.0	204
Max	24	106	223	180	180	634	122	793	780	64	131	233
Min	9.9	9.9	26	25	55	25	34	26	16	10	24	84
Ac-ft	738	2,540	4,840	2,600	4,540	10,040	2,770	27,420	28,040	1,160	2,640	12,160

Adjusted for change in storage in Prosser Creek Reservoir

	Mean	10.2	48.9	62.5	56.4	74.4	163	96.5	559	489	190	33.2	21.7
Ac-ft	628	2,910	3,840	3,470	4,130	10,030	5,740	34,390	29,090	11,660	2,040	1,290	

Observed

Adjusted

Calendar year 1966:	Max	358	Min	5.8	Mean	64.2	Ac-ft	46,490	Mean	62.9	Ac-ft	45,550
Water year 1966-67:	Max	793	Min	9.9	Mean	137	Ac-ft	99,490	Mean	151	Ac-ft	109,200

10-3420. LITTLE TRUCKEE RIVER NEAR HOBART MILLS, CALIF.

LOCATION.--Lat 39°30'05", long 120°16'35", in NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.14, T. 9 N., R.15 E., on left bank half a mile upstream from Independence Creek and 7.5 miles northwest of Hobart Mills.

DRAINAGE AREA.--36.5 sq mi (revised).

RECORDS AVAILABLE.--December 1946 to September 1967.

GAGE.--Digital water-stage recorder. Altitude of gage is 6,290 ft (from topographic map). Prior to Nov. 9, 1962, graphic water-stage recorder at site 100 ft downstream at datum 0.63 ft lower. Nov. 9, 1962, to Dec. 22, 1964, graphic water-stage recorder at site 100 ft downstream at datum 0.78 ft lower. Dec. 23, 1964, to Aug. 5, 1965, twice monthly observations referred to bridge 75 ft upstream at present datum.

AVERAGE DISCHARGE.--20 years (1947-67), 88.3 cfs (63,930 acre-ft per year).

EXTREMES.--Maximum discharge during year, 1,240 cfs June 18 (gage height, 4.48 ft); minimum, 0.40 cfs Oct. 19, 1946-67: Maximum discharge, 7,910 cfs Feb. 1, 1963 (gage height, 7.76 ft), from rating curve extended above 1,100 cfs on basis of slope-area measurements at gage heights 6.97 and 7.68 ft; minimum, that of Oct. 19, 1966.

REMARKS.--Records good except those for winter months, which are poor. One transmountain diversion to Sierra Valley above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1.2	1.4	61	27	85	36	76	38	402	751	42	2.3
2	1.4	1.4	61	25	65	38	72	40	319	719	36	2.2
3	1.4	1.8	62	26	56	36	70	42	316	680	29	2.2
4	1.4	2.9	47	27	48	32	69	48	399	593	23	3.4
5	1.4	2.9	54	27	44	30	66	48	560	546	21	3.1
6	1.4	5.2	68	25	41	31	64	51	540	494	19	2.8
7	1.4	8.3	51	22	39	32	64	78	604	438	17	2.6
8	1.4	8.8	48	22	37	32	61	122	635	394	16	2.5
9	1.4	8.2	45	21	36	33	59	195	654	363	15	2.4
10	1.4	8.4	43	21	35	33	60	186	680	328	15	2.3
11	1.4	8.9	40	22	35	32	58	146	680	308	14	2.2
12	1.4	8.7	37	23	36	30	54	129	749	302	13	2.1
13	1.4	8.7	36	22	38	28	53	127	685	308	12	2.0
14	1.5	8.9	39	20	42	27	55	154	655	296	12	2.0
15	1.5	23	38	20	41	25	53	219	722	280	8.0	2.0
16	1.5	49	35	20	40	40	50	319	830	260	3.2	1.9
17	1.5	19	33	20	39	362	48	435	979	232	3.2	2.0
18	1.5	14	31	21	39	267	58	452	1,050	212	3.2	3.2
19	1.5	13	30	22	37	193	50	509	972	186	3.4	3.7
20	1.5	56	29	15	33	179	46	607	952	165	3.2	8.5
21	1.4	19	29	30	34	172	44	731	1,000	153	3.2	7.8
22	1.4	20	26	27	34	159	43	925	924	141	2.9	7.5
23	1.4	17	27	24	34	148	41	990	816	138	2.8	7.2
24	1.4	16	26	27	34	134	40	988	769	125	3.0	7.0
25	1.4	14	25	32	33	121	39	892	810	108	3.2	7.0
26	1.5	13	27	40	32	113	39	853	858	98	3.8	6.7
27	1.5	12	26	48	33	107	41	858	811	69	3.2	6.6
28	1.5	50	24	65	33	105	40	818	761	57	3.0	6.5
29	1.4	138	26	80	-----	98	39	697	778	57	2.7	6.5
30	1.5	66	28	120	-----	89	41	654	778	57	2.5	6.4
31	1.4	-----	28	110	-----	80	-----	557	-----	49	2.3	-----
TOTAL	44.3	623.5	1,180	1,051	1,133	2,842	1,593	12,908	21,688	8,907	340.8	124.6
MEAN	1.43	20.8	38.1	33.9	40.5	91.7	53.1	416	723	287	11.0	4.15
MAX	1.5	138	68	120	85	362	76	990	1,050	751	42	8.5
MIN	1.2	1.4	24	15	32	25	39	38	316	49	2.3	1.9
AC-FT	88	1,240	2,340	2,080	2,250	5,640	3,160	25,600	43,020	17,670	676	247

CAL YR 1966: TOTAL 19,426.00 MEAN 53.2 MAX 445 MIN .70 AC-FT 38,530
WAT YR 1967: TOTAL 52,435.2 MEAN 144 MAX 1,050 MIN 1.2 AC-FT 104,000

Peak discharge (base, 500 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
5-23	2130	4.44	1,190	6-18	2045	4.48	1,240

PYRAMID AND WINNEMUCCA LAKES BASIN

10-3435. SAGEHEN CREEK NEAR TRUCKEE, CALIF.

LOCATION.--Lat 39°25'50", long 120°14'10", in NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.7, T.18 N., R.16 E., on left bank 0.1 mile upstream and 0.1 mile downstream from 2 unnamed right bank tributaries, 2.2 miles upstream from bridge on State Highway 89, and 7.5 miles north of Truckee.

DRAINAGE AREA.--10.8 sq mi.

RECORDS AVAILABLE.--October 1953 to September 1967.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 6,320 ft (from topographic map). Prior to Dec. 2, 1953, staff gage at site 100 ft upstream at different datum.

AVERAGE DISCHARGE.--14 years, 11.6 cfs (8,400 acre-ft per year).

EXTREMES.--Maximum discharge during year, 269 cfs May 24 (gage height, 3.81 ft); minimum, 2.6 cfs Jan. 20, but may have been less during periods of ice effect.

1953-67: Maximum discharge, 765 cfs Feb. 1, 1963 (gage height, 4.64 ft, from floodmarks), from rating curve extended above 70 cfs on basis of slope-area measurement at gage height 4.28 ft; minimum, 0.6 cfs Aug. 8, 1960, Aug. 7, 1961, result of temporary regulation.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.8	3.0	11	4	10	6.2	9.7	6.0	84	66	9.4	5.1
2	2.8	3.0	10	3.6	9.9	6.5	9.1	6.5	74	64	9.1	4.9
3	2.8	3.0	9.7	4	8.1	6.5	8.9	7.6	82	60	8.9	5.1
4	2.8	3.0	7.4	4	7.6	6.2	8.9	8.9	87	55	8.4	6.2
5	2.8	3.0	14	3.9	7.4	6.0	8.1	8.9	104	52	8.1	6.2
6	2.8	3.4	12	3.6	6.9	5.8	7.9	10	101	47	7.6	5.3
7	2.8	3.8	8.4	3.6	6.9	6.0	7.9	16	106	43	7.6	5.1
8	2.8	3.6	7.1	3.9	6.5	6.2	7.9	24	108	40	7.4	4.9
9	2.8	3.3	6.2	3.8	6.5	6.5	8.1	35	108	36	7.1	4.7
10	2.8	3.4	6.2	3.8	6.5	6.5	8.4	32	110	33	6.9	4.7
11	2.8	3.6	5.8	3.9	6.2	6.0	7.6	24	110	31	6.7	4.6
12	2.8	3.4	5.6	3.9	6.7	5.8	7.6	22	108	28	6.5	4.4
13	3.0	3.3	5.6	3.9	7.4	7.6	7.6	24	106	27	6.2	4.4
14	3.0	3.4	5.3	3.9	7.1	6.7	7.9	32	99	26	6.2	4.4
15	3.0	6.0	5.1	4.0	6.2	6.0	7.4	45	95	26	6.0	4.4
16	3.0	15	5.1	4.0	6.5	20	7.1	60	98	25	6.0	4.4
17	3.0	6.2	4.9	3.9	6.2	50	6.9	79	101	22	6.0	4.4
18	3.0	4.6	4.9	3.9	6.5	35	6.9	88	102	20	6.0	7.2
19	3.0	5.6	4.7	3.8	6.2	25	6.9	93	99	19	6.2	5.1
20	3.0	14	4.7	3.6	6.0	19	6.5	111	99	18	5.8	4.6
21	3.0	6.5	4.6	7.0	5.8	19	6.5	135	101	16	5.4	4.6
22	3.0	5.8	4.6	6.0	5.8	18	6.2	150	95	16	5.4	4.6
23	3.0	5.1	4.4	5.0	5.8	16	6.2	158	89	15	6.8	4.6
24	3.0	4.6	4.4	4.0	5.8	15	6.0	170	84	13	7.4	4.6
25	3.0	4.4	4.2	5.0	5.8	13	6.0	158	83	13	9.4	4.4
26	3.0	4.2	4.2	7.0	5.6	13	5.8	160	81	12	8.1	4.2
27	3.0	4.2	3.8	8.4	5.6	12	6.0	158	76	11	6.2	4.0
28	3.0	17	3.4	9.4	6.0	12	5.8	152	73	11	5.8	3.9
29	3.0	20	4.0	21	---	11	5.8	138	72	11	5.4	4.0
30	3.0	9.1	4.0	15	---	11	5.8	126	70	11	5.3	3.9
31	3.0	---	4.0	12	---	10	---	102	---	10	5.1	---
Total	90.6	178.5	189.3	176.8	186.5	328.5	217.4	2,339.9	2,805	877	212.4	142.9
Mean	2.92	5.95	6.11	5.70	6.66	12.7	7.25	75.5	93.5	28.3	6.85	4.76
Max	3.0	20	14	21	10	50	9.7	170	110	66	9.4	7.2
Min	2.8	3.0	3.4	3.6	5.6	5.8	5.8	6.0	70	10	5.1	3.9
Ac-ft	180	354	375	351	370	780	431	4,640	5,560	1,740	421	283

Cal yr 1966: Total 2,731.4 Mean 7.48 Max 36 Min 1.9 Ac-ft 5,410
 Wtr yr 1967: Total 7,809.8 Mean 21.4 Max 170 Min 2.8 Ac-ft 15,480

Peak discharge (base, 50 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-17	Unknown	--	60 (est)				
5-24	1700	3.81	269				
6-7	1730	3.34	144				

10-3444. LITTLE TRUCKEE RIVER ABOVE BOCA RESERVOIR, NEAR BOCA, CALIF.

LOCATION.--Lat 39°26'10", long 120°05'00", in SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.3, T.18 N., R.17 E., on left bank 1 mile upstream from Boca Reservoir, 1.5 miles upstream from Dry Creek, and 3.5 miles north of Boca.

DRAINAGE AREA.--146 sq mi.

RECORDS AVAILABLE.--June 1903 to October 1910, September 1939 to September 1967. Published as "at Pine Station" June 1903 to December 1907 and as "at Starr" January 1908 to October 1910. Monthly discharge only for some periods, published in WSP 1314 and 1734.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 5,618.67 ft above mean sea level (Bureau of Reclamation benchmark). June 1903 to October 1910, staff gages at different sites and datums.

AVERAGE DISCHARGE.--35 years (1903-10, 1939-67), 193 cfs (139,700 acre-ft per year).

EXTREMES.--Maximum discharge during year, 2,800 cfs May 21 (gage height, 3.78 ft); minimum, 13 cfs Oct. 1-5. 1903-10, 1939-67: Maximum discharge, 13,300 cfs Feb. 1, 1963 (gage height, 9.00 ft), from rating curve extended above 1,600 cfs on basis of slope-area measurement of peak flow; minimum recorded, 2.2 cfs Dec. 5, 1959.

REMARKS.--Records excellent except those for January, which are poor. Flow slightly regulated by Independence Lake (capacity, 17,500 acre-ft) and one transmountain diversion to Sierra Valley.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	13	18	142	52	220	150	303	217	940	1,000	83	28
2	14	17	159	50	188	169	280	253	794	970	75	28
3	13	18	159	47	159	178	276	303	744	940	68	29
4	13	18	118	48	144	159	271	359	803	865	62	31
5	13	19	159	44	134	153	253	375	990	812	59	41
6	14	23	159	39	125	185	249	431	940	752	56	35
7	14	27	136	45	131	192	245	619	970	655	54	34
8	14	28	113	45	125	196	245	892	1,000	585	54	30
9	14	27	113	45	118	213	258	1,200	1,000	546	51	29
10	14	27	103	48	115	221	266	1,030	1,010	514	50	29
11	15	28	92	52	110	192	253	760	1,000	483	48	28
12	15	29	86	54	115	199	249	687	1,090	465	46	26
13	15	28	88	52	125	188	266	703	1,100	448	44	26
14	15	26	80	51	134	196	284	849	990	442	42	26
15	16	40	75	50	128	192	276	1,110	1,020	442	44	26
16	16	118	70	50	128	562	253	1,380	1,060	425	37	26
17	16	66	66	50	123	960	253	1,700	1,200	371	34	25
18	16	48	56	50	123	892	253	1,720	1,250	338	35	41
19	17	40	58	50	120	695	241	1,690	1,270	308	34	36
20	17	120	58	54	110	620	225	1,780	1,190	276	36	32
21	17	75	58	78	115	613	225	2,000	1,240	245	32	36
22	18	56	60	70	115	599	213	2,130	1,220	229	31	36
23	18	48	54	60	118	578	210	1,960	1,130	221	31	35
24	18	42	50	70	120	520	210	1,880	1,060	202	36	35
25	18	42	46	80	118	471	202	1,740	1,080	172	37	35
26	18	46	52	100	118	430	206	1,580	1,100	159	45	32
27	18	38	50	130	118	408	221	1,540	1,080	142	37	32
28	18	86	48	160	128	413	206	1,470	1,030	110	34	31
29	18	271	48	200	- - - -	375	199	1,330	1,030	106	31	31
30	18	162	50	400	- - - -	348	206	1,230	1,020	110	30	31
31	18	- - - -	52	270	- - - -	318	- - - -	1,190	- - - -	96	28	- - - -
Total	491	1,631	2,658	2,594	3,625	11,585	7,297	36,108	31,351	13,429	1,384	940
Mean	15.8	54.4	85.7	83.7	129	374	243	1,165	1,045	433	44.6	31.3
Max	18	271	159	400	220	960	303	2,130	1,270	1,000	83	41
Min	13	17	46	39	110	150	199	217	744	96	28	25
Ac-ft	974	3,240	5,270	5,150	7,190	22,980	14,470	71,620	62,180	26,640	2,750	1,860

Cal yr 1966: Total 38,660 Mean 106 Max 552 Min 9.0 Ac-ft 76,690
Wtr yr 1967: Total 113,093 Mean 310 Max 2,130 Min 13 Ac-ft 224,300

Peak discharge (base, 500 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-17	1630	2.77	1,120	5-21	2230	3.78	2,800
5-9	1900	3.13	1,580	6-19	0300	2.97	1,400

PYRAMID AND WINNEMUCCA LAKES BASIN

10-3444.9. BOCA RESERVOIR AT BOCA, CALIF.

LOCATION.--Lat 39°23'20", long 120°05'40", in NE¼NW¼ sec.28, T.18 N., R.17 E., in control house at Boca Dam, 1,800 ft upstream from mouth of Little Truckee River and half a mile northwest of Boca.

DRAINAGE AREA.--172 sq mi.

RECORDS AVAILABLE.--December 1938 to September 1967. Month-end contents only for December 1938 to September 1957, published in WSP 1734.

GAGE.--Pressure gage with mercury column read once daily. Datum of gage is at mean sea level (levels by Bureau of Reclamation).

EXTREMES.--Maximum contents during year, 41,000 acre-ft July 15, 16 (elevation, 5,605.10 ft); minimum, 1,570 acre-ft Oct. 19 (elevation, 5,535.85 ft).

1939-67: Maximum contents, 41,440 acre-ft Dec. 23, 1955 (elevation, 5,605.55 ft); minimum, 37 acre-ft Mar. 4-9, 1955 (elevation, 5,521.65 ft).

REMARKS.--Reservoir is formed by earth-fill, rock-faced dam. Storage began Dec. 8, 1938. Usable capacity, 40,900 acre-ft between elevations 5,521 (outlet sill) and 5,605 ft (top of spillway gates). Elevation of spillway (gate open) is 5,589.01 ft. Dead storage, 240 acre-ft. Figures given herein represent usable contents. Water is used for irrigation in the State of Nevada and for power development.

COOPERATION.--Daily elevations furnished by Washoe County Water Conservation District.

CAPACITY TABLE (ELEVATION, IN FEET, AND CONTENTS, IN ACRE-Feet)

5,535	1,440	5,560	8,790	5,590	27,510
5,540	2,340	5,570	13,760	5,600	36,150
5,550	4,970	5,580	20,020	5,605.1	41,000

CONTENTS, IN ACRE-Feet, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,950	1,990	5,640	1,770	2,540	1,800	4,290	12,330	30,400	39,590	40,260	37,540
2	1,960	2,010	5,960	1,770	2,340	1,910	3,750	12,510	30,150	40,610	40,260	37,360
3	1,970	2,050	6,380	1,760	2,140	2,050	3,200	12,620	29,860	40,660	40,120	37,540
4	1,980	2,080	6,620	1,760	1,950	2,090	3,300	12,830	29,780	40,560	39,980	37,020
5	1,980	2,110	7,060	1,780	1,760	2,030	3,530	13,100	29,860	40,310	39,830	36,890
6	1,990	2,160	7,400	1,740	1,560	2,010	3,950	13,130	30,110	39,930	39,640	36,750
7	2,000	2,220	7,770	1,720	1,600	2,050	4,320	13,460	30,110	39,400	39,440	36,330
8	2,000	2,260	8,100	1,720	1,660	2,090	4,720	14,270	30,200	39,400	39,300	35,780
9	2,000	2,310	8,290	1,720	1,670	2,110	5,170	15,500	30,240	39,440	39,110	35,100
10	2,010	2,390	7,770	1,720	1,680	2,220	5,620	17,100	30,280	39,540	39,010	34,460
11	2,000	2,440	7,180	1,720	1,670	2,110	6,060	17,810	30,280	39,640	38,920	33,880
12	2,000	2,480	6,560	1,720	1,690	1,860	6,430	18,000	30,280	39,930	38,920	33,220
13	1,940	2,550	5,780	1,720	1,710	1,660	6,890	18,070	30,490	40,460	38,870	32,560
14	1,900	2,590	5,100	1,720	1,750	1,620	7,360	18,260	30,400	40,850	38,770	31,900
15	1,860	2,670	4,200	1,720	1,790	1,790	7,890	18,930	30,320	41,000	38,580	31,260
16	1,800	2,770	3,350	1,720	1,820	2,200	8,310	20,230	30,360	41,000	38,390	30,620
17	1,740	3,040	2,460	1,700	1,840	3,670	8,730	22,140	30,780	40,800	38,300	29,980
18	1,640	3,140	2,170	1,670	1,820	5,220	9,120	24,530	31,470	40,560	38,200	29,360
19	1,570	3,250	2,160	1,690	1,790	6,080	9,510	26,670	32,520	40,560	38,200	28,980
20	1,600	3,350	2,100	1,720	1,740	6,390	9,860	28,610	33,040	40,610	38,160	28,530
21	1,630	3,610	2,040	1,790	1,720	6,680	10,160	29,820	33,260	40,660	38,060	28,410
22	1,660	3,780	1,970	1,870	1,720	6,890	10,450	30,490	33,880	40,660	38,010	28,320
23	1,720	3,860	1,890	1,910	1,720	7,000	10,710	30,910	34,200	40,610	38,010	28,200
24	1,730	4,020	1,860	1,990	1,720	7,160	10,980	30,870	34,600	40,610	37,960	28,120
25	1,770	4,060	1,840	2,040	1,730	7,000	11,180	30,870	34,920	40,610	37,920	27,960
26	1,800	4,170	1,800	2,120	1,730	6,810	11,380	30,830	35,180	40,460	37,920	27,710
27	1,840	4,290	1,790	2,180	1,720	6,470	11,630	31,000	35,780	40,510	37,870	27,350
28	1,870	4,360	1,750	2,230	1,740	6,140	11,820	31,040	36,660	40,460	37,870	26,950
29	1,900	4,780	1,750	2,310	-----	5,820	11,990	30,910	37,640	40,410	37,730	26,510
30	1,920	5,300	1,750	2,600	-----	5,350	12,150	30,700	38,630	40,410	37,680	26,080
31	1,950	-----	1,770	2,590	-----	4,910	-----	30,280	-----	40,310	37,540	-----
(†)	5,538.02	5,551.00	5,537.00	5,541.20	5,536.85	5,549.80	5,567.00	5,593.35	5,602.65	5,604.42	5,601.50	5,588.20
(‡)	9	+3,350	-3,530	+820	-850	+3,170	+7,240	+18,130	+8,350	+1,680	-2,770	-11,460

Calendar year 1966 ‡: 4700

Water year 1967 ‡: +24,130

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-feet.

10-3445. LITTLE TRUCKEE RIVER AT BOCA, CALIF.

LOCATION.--Lat 39°23'10", long 120°05'40", in NE¼NW¼ sec.28, T.18 N., R.17 E., on right bank 800 ft upstream from mouth, 1,000 ft downstream from Boca Dam, and a third of a mile northwest of Boca.

DRAINAGE AREA.--172 sq mi.

RECORDS AVAILABLE.--April to October 1890 (monthly discharge only), January 1911 to September 1915, January 1939 to September 1967. Monthly discharge only for January 1939 to September 1957, published in WSP 1734.

GAGE.--Water-stage recorder. Altitude of gage is 5,500 ft (from topographic map). Jan. 1, 1911, to Sept. 30, 1915, staff gage at site 650 ft downstream at different datum. January 1939 to September 1957, records computed from daily log of rated settings of needle valve in dam, and from computed flow over spillway.

AVERAGE DISCHARGE.--32 years (1911-15, 1939-67), 188 cfs (136,100 acre-ft per year), unadjusted.

EXTREMES.--Maximum discharge during year, 2,050 cfs May 24 (gage height, 5.83 ft); no flow Nov. 17-20, 22-27, 30, Dec. 1, 4.
1890, 1911-15, 1939-67: Maximum discharge, 8,800 cfs Dec. 24, 1955, from records of Washoe County Water Conservation District; no flow for many days in most years.

REMARKS.--Records good. Flow regulated by Boca Reservoir (capacity, 40,900 acre-ft), Independence Lake (capacity, 17,500 acre-ft), and one transmountain diversion to Sierra Valley.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9.2	0.20	0	50	310	140	634	225	1,120	533	106	95
2	9.2	.20	.20	50	307	142	616	315	995	438	136	105
3	9.2	.20	.10	50	280	181	419	349	885	973	138	105
4	9.2	.20	0	50	259	207	212	374	846	968	138	105
5	9.2	.20	.20	50	251	207	146	477	924	962	147	103
6	9.6	.20	.20	50	168	207	102	533	1,000	946	147	189
7	9.6	.20	.10	50	110	209	103	533	1,020	705	147	271
8	9.6	.20	.90	50	124	227	99	710	1,050	491	147	302
9	9.6	.20	253	50	133	238	98	824	1,070	463	139	323
10	18	.20	414	50	133	278	100	940	1,080	417	98	323
11	22	.20	408	50	133	310	102	978	1,080	328	67	323
12	39	.20	442	50	134	305	102	978	1,100	212	51	323
13	35	.20	463	50	134	268	103	984	1,180	179	64	323
14	40	.20	488	50	134	161	105	990	1,130	272	145	326
15	46	.30	494	50	136	179	96	1,000	1,100	411	145	326
16	46	.20	494	50	136	311	94	769	990	484	118	326
17	62	0	358	50	151	570	115	896	1,020	456	98	328
18	64	0	78	45	160	662	129	912	927	354	68	266
19	18	0	95	42	160	680	127	978	1,040	263	52	234
20	.20	0	105	42	147	685	129	1,340	1,170	245	52	146
21	.20	.10	105	43	138	695	129	1,650	1,110	242	52	58
22	.20	0	105	43	138	700	131	1,840	1,100	242	52	73
23	.20	0	80	43	138	700	131	1,980	1,040	212	52	86
24	.20	0	66	43	138	700	149	1,980	968	201	52	86
25	.20	0	66	44	138	700	160	1,830	990	205	52	107
26	.20	0	66	62	138	695	173	1,600	918	167	51	183
27	.20	0	66	98	138	690	183	1,590	730	154	52	216
28	.20	.10	55	134	138	680	185	1,590	612	138	72	234
29	.20	.10	49	161	---	675	185	1,500	521	126	75	231
30	.20	0	49	252	---	662	185	1,400	509	133	79	231
31	.20	---	49	313	---	652	---	1,200	---	134	78	---
Total	476.80	3.60	4,849.70	2,215	4,604	13,716	5,242	33,265	29,225	12,054	2,870	6,346
Mean	15.4	0.12	156	71.5	164	442	175	1,073	974	389	92.6	212
Max	64	0.20	494	313	310	700	634	1,980	1,180	973	147	328
Min	0.20	0	0	42	110	140	94	225	509	126	51	58
Ac-ft	946	7.1	9,620	4,390	9,130	27,210	10,400	65,980	57,970	23,910	5,690	12,590

Cal yr 1966: Total 39,173.2 Mean 107 Max 494 Min 0 Ac-ft 77,710
Wtr yr 1967: Total 114,867.1 Mean 315 Max 1,980 Min 0 Ac-ft 227,800

PYRAMID AND WINNEMUCCA LAKES BASIN

10-3460. TRUCKEE RIVER AT FARAD, CALIF.

LOCATION.--Lat 39°25'41", long 120°01'59", in NE¼ sec.12, T.18 N., R.17 E., on left bank half a mile upstream from Mystic Canyon, 0.7 mile downstream from Farad powerplant, 2.5 miles north of Floriston, 3.4 miles downstream from Bronco Creek, and 3.5 miles upstream from California-Nevada State line.

DRAINAGE AREA.--932 sq mi.

RECORDS AVAILABLE.--March to October 1890 (monthly discharge only), September 1899 to September 1967. Published as "near Boca" March to October 1890, "at or near Nevada-California State line" September 1899 to August 1912, and as "at Iceland" August 1912 to December 1937. Monthly discharge only for January 1944 to July 1957, published in WSP 1734.

GAGE.--Digital water-stage recorder. Datum of gage is 5,153.21 ft above mean sea level (Bureau of Reclamation benchmark). March to October 1890, staff gage at site 7 miles upstream at different datum. Sept. 7, 1899, to May 31, 1909, staff gage at approximately present location at different datum. June 1, 1909, to July 31, 1912, staff gage at site 2.5 miles downstream at different datum. Aug. 1, 1912, to Dec. 31, 1937, graphic water-stage recorder at site 4.1 miles upstream at different datum. Jan. 1, 1938, to Aug. 27, 1957, graphic water-stage recorder at approximately present location at different datum. Aug. 28, 1957, to July 24, 1964, graphic water-stage recorder at present site and datum.

AVERAGE DISCHARGE.--68 years (1899-1967), 785 cfs (568,300 acre-ft per year).

EXTREMES.--Maximum discharge during year, 6,710 cfs May 21 (gage height, 8.64 ft); minimum, 102 cfs Feb. 22, result of upstream regulation.

1899-1967: Maximum discharge, 17,500 cfs Nov. 21, 1950 (gage height, 14.5 ft, present datum, from flood-marks), from slope-area measurement of peak flow; minimum, 28 cfs Dec. 18, 1930.

REMARKS.--Records good. Flow regulated by Lake Tahoe, Prosser Creek and Boca Reservoirs, Donner and Independence Lakes, and by several powerplants. Records of chemical analyses and water temperature for the water year 1967 are published in Part 2 of this report for Truckee River at Floriston, California. No appreciable inflow between sampling point and gaging station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	416	363	397	358	913	449	1,130	554	4,560	3,520	564	533
2	402	274	471	345	854	527	1,080	918	4,160	3,730	585	542
3	421	271	503	340	777	601	896	1,210	3,900	3,850	594	548
4	500	269	395	343	711	599	623	1,520	3,930	3,750	576	578
5	499	269	546	346	689	579	554	1,700	4,060	3,680	588	584
6	438	294	543	338	589	573	493	1,950	3,990	3,540	573	666
7	359	282	519	343	480	578	490	2,140	4,150	3,110	563	674
8	326	278	494	334	463	563	484	2,580	4,230	2,680	555	666
9	305	280	605	332	453	557	495	3,010	4,380	2,570	583	702
10	349	272	735	335	454	594	495	3,030	4,390	2,460	644	699
11	411	272	729	345	453	619	469	2,860	4,380	2,090	599	700
12	389	271	727	348	461	617	470	2,700	4,400	1,960	569	707
13	366	270	731	345	465	585	477	2,650	4,500	1,670	476	717
14	372	271	751	345	484	480	493	2,760	4,330	1,310	567	717
15	375	296	760	346	455	494	487	3,110	4,280	1,210	651	715
16	368	418	717	349	444	1,650	455	3,440	4,390	1,190	660	713
17	374	331	632	344	460	2,510	475	4,060	4,660	1,080	629	713
18	418	338	312	341	498	2,250	510	4,370	4,710	959	613	746
19	436	318	327	336	504	2,160	488	4,540	4,790	823	590	760
20	410	439	342	350	469	1,860	472	5,150	4,890	760	591	755
21	407	385	471	572	433	1,650	472	5,880	4,840	732	583	646
22	402	359	567	403	424	1,650	462	6,080	4,540	713	576	617
23	402	352	539	476	433	1,660	458	5,580	4,110	674	574	610
24	398	355	473	393	438	1,550	470	5,540	3,920	641	600	587
25	392	348	458	367	433	1,450	473	5,440	4,030	619	605	580
26	375	346	445	387	428	1,400	476	5,330	3,900	574	597	656
27	373	341	429	482	429	1,350	505	5,310	3,760	542	558	677
28	371	508	419	580	429	1,350	492	5,440	3,680	532	562	727
29	367	792	400	950	-----	1,280	483	5,330	3,570	518	560	696
30	365	430	392	1,020	-----	1,230	489	5,300	3,560	528	574	587
31	366	-----	369	1,010	-----	1,190	-----	5,000	-----	534	529	-----
TOTAL	12,152	10,292	16,198	13,503	14,523	34,605	16,316	114,482	126,990	52,549	18,088	19,818
MEAN	392	343	523	436	519	1,116	544	3,693	4,233	1,695	583	661
MAX	500	792	760	1,020	913	2,510	1,130	6,080	4,890	3,850	660	760
MIN	305	269	312	332	424	449	455	554	3,560	518	476	533
AC-FT	24,100	20,410	32,130	26,780	28,810	68,640	32,360	227,100	251,900	104,200	35,880	39,310

CAL YR 1966: TOTAL 211,946 MEAN 581 MAX 1,340 MIN 198 AC-FT 420,400
WAT YR 1967: TOTAL 449,516 MEAN 1,232 MAX 6,080 MIN 269 AC-FT 891,600

Peak discharge (base, 1,600 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-16	1815	5.69	2,910	6-19	2115	7.69	5,160
5-21	2400	8.64	6,710				

PYRAMID AND WINNEMUCCA LAKES BASIN

537

10-3480. TRUCKEE RIVER AT RENO, NEV.

LOCATION.--Lat 39°31'55", long 119°47'05", in NW¼ sec.7, T.19 N., R.20 E., on left bank 400 ft downstream from Kietzke Lane bridge, half a mile downstream from Scott Island, 1.5 miles east of Reno Post Office, and 5 miles upstream from Steamboat Creek.

DRAINAGE AREA.--1,067 sq mi.

RECORDS AVAILABLE.--July 1906 to September 1921, June 1925 to September 1926, January 1930 to December 1935, January to December 1943, January 1946 to September 1967. Monthly discharge only for some periods, published in WSP 1314 and 1734.

GAGE.--Digital water-stage recorder. Datum of gage is 4,431.97 ft above mean sea level (levels by Corps of Engineers). July 1906 to September 1946, staff gage at site 1 mile upstream at different datum. Jan. 1, 1947, to Feb. 11, 1965, graphic water-stage recorder at present site and datum.

AVERAGE DISCHARGE.--41 years (1906-21, 1925-26, 1930-34, 1946-67), 658 cfs (476,400 acre-ft per year).

EXTREMES.--Maximum discharge during year, 6,800 cfs May 22 (gage height, 8.89 ft); minimum, 63 cfs Oct. 10. 1906-21, 1925-26, 1930-35, 1943, 1946-67: Maximum discharge, 20,800 cfs Dec. 23, 1955; maximum gage height, 13.83 ft Nov. 21, 1950; no flow Sept. 12, 14-24, 26-30, 1926.

REMARKS.--Records good. Flow regulated by Lake Tahoe, Prosser Creek and Boca Reservoirs, Donner and Independence Lakes, and by several powerplants. Many diversions above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	169	287	440	354	1,060	480	1,260	349	4,440	3,260	235	265
2	153	267	540	358	949	535	1,200	616	3,720	3,400	261	249
3	141	227	640	354	886	604	1,090	942	3,500	3,600	269	261
4	193	220	470	345	774	646	712	1,370	3,500	3,520	228	293
5	234	227	816	345	742	598	658	1,560	3,650	3,460	249	384
6	196	241	664	331	688	592	560	1,800	3,500	3,300	242	370
7	132	279	622	340	525	592	570	2,030	3,680	3,020	224	475
8	102	267	580	349	510	592	560	2,450	3,780	2,470	221	388
9	88	267	598	336	495	570	560	3,050	3,960	2,360	214	447
10	68	263	893	331	495	604	550	3,150	3,960	2,310	313	442
11	166	259	851	331	490	652	510	2,840	4,000	2,040	305	442
12	148	263	816	345	500	664	510	2,590	4,090	1,840	253	442
13	151	259	816	340	515	646	515	2,420	4,230	1,640	200	451
14	144	255	816	336	555	550	525	2,510	4,000	1,250	196	465
15	169	271	816	336	500	515	530	2,840	3,900	1,010	305	465
16	161	403	754	340	495	2,630	485	3,390	3,960	979	384	456
17	156	376	736	336	485	3,510	485	4,080	4,290	895	334	480
18	186	331	376	336	530	2,750	530	4,560	4,470	571	375	637
19	231	340	304	331	535	2,500	510	4,600	4,500	475	293	593
20	213	412	345	340	515	2,210	480	5,220	4,660	429	281	610
21	224	445	390	1,250	465	1,900	490	5,970	4,610	411	281	480
22	224	394	535	670	460	1,870	465	6,200	4,280	388	249	402
23	224	358	535	535	460	1,870	455	5,600	4,000	352	261	415
24	231	367	450	475	470	1,760	455	5,460	3,540	321	305	392
25	248	358	426	390	465	1,620	465	5,280	3,650	301	325	370
26	234	358	426	470	455	1,560	435	5,120	3,590	269	411	420
27	231	354	408	604	455	1,500	445	5,160	3,380	238	339	428
28	224	403	399	781	460	1,510	417	5,220	3,320	245	305	490
29	234	991	403	1,720	-----	1,450	403	5,080	3,330	249	305	485
30	234	598	403	1,390	-----	1,370	381	5,080	3,290	249	289	446
31	248	-----	363	1,250	-----	1,320	-----	4,920	-----	231	257	-----
TOTAL	5,757	10,340	17,631	16,349	15,934	40,170	17,211	111,457	116,780	45,083	8,709	12,943
MEAN	186	345	569	527	569	1,296	574	3,595	3,893	1,454	281	431
MAX	248	991	893	1,720	1,060	3,510	1,260	6,200	4,660	3,600	411	637
MIN	68	220	304	331	455	480	381	349	3,290	231	196	249
AC-FT	11,420	20,510	34,970	32,430	31,600	79,680	34,140	221,100	231,600	89,420	17,270	25,670

CAL YR 1966: TOTAL 150,308 MEAN 412 MAX 1,300 MIN 68 AC-FT 298,100
WAT YR 1967: TOTAL 418,364 MEAN 1,146 MAX 6,200 MIN 68 AC-FT 829,800

Peak discharge (base, 1,600 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
1-21	1745	4.90	1,780	5-10	0015	6.40	3,340
1-29	0930	5.82	2,680	5-22	0215	8.89	6,800
3-17	0015	7.02	4,120	6-20	0030	7.71	4,920

HONEY LAKE BASIN

10-3547. MILL CREEK AT MILFORD, CALIF.

LOCATION.--Lat 40°10'15", long 120°22'14", in SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.26, T.27 N., R.14 E., on left bank 7 ft (revised) upstream from culvert on U.S. Highway 395 in Milford.

DRAINAGE AREA.--2.26 sq mi.

RECORDS AVAILABLE.--August 1963 to September 1967.

GAGE.--Graphic water-stage recorder with recording rain gage attachment and crest-stage gages. Altitude of gage is 4,200 ft (from topographic map).

EXTREMES.--Maximum discharge during year, 28 cfs Jan. 29 (gage height, 4.13 ft), from rating curve extended above 4 cfs on basis of computation of flow through culvert at gage height 3.00 ft, 3.59 ft, and 4.13 ft; minimum daily, 0.10 cfs Oct. 2.

1963-67: Maximum discharge, that of Jan. 29, 1967; no flow Aug. 23, 1964, Aug. 28, 1966.

REMARKS.--Records good. Small diversions above station for irrigation.

Discharge, in cubic feet per second, water year October 1966 to September 1967												
Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.50	1.0	0.90	0.50	3.7	1.6	2.0	1.6	2.4	0.80	0.70	0.60
2	.10	1.0	1.0	.50	3.0	1.5	1.9	1.7	2.5	.60	.70	.50
3	.60	1.0	.90	.50	2.7	1.5	1.9	2.0	2.8	.90	.70	.30
4	.50	1.0	.90	.50	2.7	1.5	1.8	2.2	2.3	.90	.70	.80
5	.50	.90	1.1	.60	2.3	1.4	1.8	2.4	3.5	.80	.50	.80
6	.60	1.1	1.1	.70	2.2	1.4	1.8	2.8	3.0	.80	.20	.80
7	.70	1.1	.90	.60	2.0	1.4	1.8	4.1	3.0	.80	.60	.80
8	.50	1.0	.90	.50	1.8	1.5	1.8	5.9	2.8	.60	.50	.70
9	.20	.90	.90	.50	1.7	1.6	2.0	6.9	2.7	.40	.50	.60
10	.70	.90	.80	.50	1.7	1.6	2.0	5.3	2.2	.80	.50	.30
11	.70	.90	.80	.50	1.6	1.6	1.9	4.2	1.9	.70	.50	.70
12	.70	.90	.80	.50	1.8	1.6	1.9	3.8	3.7	.70	.30	.70
13	.80	.80	1.2	.50	2.0	1.5	2.0	3.5	3.0	.60	.20	.70
14	.80	.60	1.0	.50	2.0	1.5	2.0	3.8	2.3	.60	.60	.70
15	.80	.90	.90	.50	1.9	1.9	2.0	4.4	2.0	.60	.60	.70
16	.80	1.1	.70	.50	1.9	8.8	1.9	5.3	1.9	.40	.60	.60
17	.80	1.0	.70	.50	1.8	6.9	2.0	6.1	1.9	.90	.60	.40
18	.60	1.0	.50	.50	1.8	4.6	1.9	5.9	1.2	.90	.60	.80
19	.70	1.0	.50	.50	1.7	3.3	1.8	5.3	1.7	.80	.50	.80
20	.80	1.2	.50	.80	1.6	2.7	1.7	4.1	1.6	.90	.20	.70
21	.90	1.1	.50	9.3	1.6	2.7	1.7	3.5	1.6	.90	.60	.70
22	.90	1.1	.50	5.3	1.6	2.6	1.7	3.5	1.5	.70	.70	.50
23	.90	.90	.50	2.8	1.6	2.5	1.7	2.9	1.5	.30	.60	.40
24	.90	.90	.50	2.2	1.6	2.3	1.7	2.4	1.2	.80	.50	.30
25	.90	.90	.70	1.9	1.6	2.2	1.6	1.9	.60	.80	.50	.50
26	.90	.90	.60	2.0	1.6	2.0	1.6	1.9	1.2	.80	.50	.50
27	.90	.90	.60	2.1	1.6	2.1	1.6	1.6	1.1	.80	.40	.50
28	.90	.90	.50	4.8	1.6	2.1	1.6	1.5	1.0	.70	.70	.50
29	.90	.90	.50	15	-----	2.1	1.6	1.7	.90	.50	.70	.60
30	.90	.90	.50	7.0	-----	2.1	1.6	1.6	.90	.20	.70	.50
31	.90	-----	.50	5.1	-----	2.0	-----	2.1	-----	.80	.70	-----
Total	22.30	28.70	22.90	68.20	54.7	74.1	54.3	105.9	59.90	21.80	16.90	18.00
Mean	0.72	0.96	0.74	2.20	1.95	2.39	1.81	3.42	2.00	0.70	0.55	0.60
Max	0.90	1.2	1.2	15	3.7	8.8	2.0	6.9	3.7	0.90	0.70	0.80
Min	0.10	0.60	0.50	0.50	1.6	1.4	1.6	1.5	0.60	0.20	0.20	0.30
Ac-ft	44	57	45	135	108	147	108	210	119	43	34	36
(†)	0	4.43	3.82	8.81	0.15	2.95	0.86	1.36	1.33	0	0	0

Cal yr 1966: Total 265.60 Mean 0.73 Max 1.4 Min 0 Ac-ft 527
 Wtr yr 1966-67: Total 547.70 Mean 1.50 Max 15 Min 0.10 Ac-ft 1090

† Precipitation in inches (some precipitation falling as snow may not be included).

10-3565. SUSAN RIVER AT SUSANVILLE, CALIF.

LOCATION.--Lat 40°25'05", long 120°40'15", in SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec.31, T.30 N., R.12 E., on left bank 0.5 mile west of Susanville and 1.1 miles upstream from Piute Creek.

DRAINAGE AREA.--184 sq mi.

RECORDS AVAILABLE.--June 1900 to December 1905 (gage height only August 1901 to January 1903), March to May 1913 (gage heights, only), February 1917 to June 1921, October 1950 to September 1967. Published as "near Susanville" 1900-1905. Discharge records for August to December 1901 and January 1903, published in WSP 300, have been found to be unreliable and should not be used.

GAGE.--Water-stage recorder. Datum of gage is 4,225.72 ft above mean sea level, datum of 1929. Prior to Oct. 1, 1950, staff gages at several sites in vicinity of old powerplant 0.9 mile upstream at various datums.

AVERAGE DISCHARGE.--22 years (1900-1901, 1903-5, 1917-20, 1950-67), 94.9 cfs (68,700 acre-ft per year).

EXTREMES.--Maximum discharge during year, 1,450 cfs Jan. 29 (gage height, 5.51 ft); minimum daily, 2.8 cfs Oct. 1.

1900-1905, 1913, 1917-21, 1950-67: Maximum discharge, 5,100 cfs Dec. 22, 1964 (gage height, 7.30 ft), from rating curve extended above 1,500 cfs on basis of slope-area measurement at gage height 6.62 ft; no flow Aug. 15, 1961.

REMARKS.--Records good. Flow regulated by McCoy Flat Reservoir, Hog Flat Reservoir, and Lake Levitt (combined usable capacity, 39,300 acre-ft). Diversions for irrigation of 1,400 acres above station. Records of chemical analyses for the water year 1967 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.8	6.8	99	22	204	101	140	94	516	118	108	4.2
2	3.0	7.2	103	20	160	106	133	105	408	104	108	4.7
3	3.2	7.7	100	22	137	102	133	116	351	65	104	4.2
4	3.2	7.5	82	23	121	92	127	135	295	55	104	5.1
5	3.1	7.7	175	22	115	86	121	162	306	62	109	7.7
6	3.6	11	96	22	108	86	125	192	315	60	112	6.9
7	3.7	11	72	22	103	89	124	278	330	57	114	7.3
8	3.4	9.0	60	22	98	91	125	432	342	54	112	6.5
9	3.2	8.6	52	22	97	101	135	512	357	52	109	6.5
10	3.0	8.6	55	22	100	114	138	436	351	52	108	6.9
11	3.2	8.6	53	24	98	106	127	330	348	50	102	6.5
12	3.2	10	52	27	115	95	122	288	372	48	112	7.1
13	3.5	11	76	23	133	102	132	280	380	46	111	4.9
14	4.0	8.8	86	23	132	94	135	309	351	34	103	5.1
15	4.5	12	65	23	111	88	124	396	288	24	115	5.1
16	4.8	55	54	22	102	513	115	508	248	24	118	5.1
17	5.0	23	48	22	101	596	118	580	241	29	123	5.3
18	4.8	17	44	22	105	448	122	610	258	22	109	7.3
19	5.0	30	39	22	96	333	116	620	381	126	49	6.7
20	5.6	151	36	21	84	290	114	625	420	146	26	5.7
21	6.8	70	35	132	80	303	111	650	354	132	20	5.7
22	6.8	43	34	154	82	303	105	958	336	118	16	6.3
23	5.6	30	33	92	82	408	105	1,250	300	103	13	6.9
24	4.2	25	30	69	84	315	110	1,280	226	102	10	6.3
25	4.5	22	26	57	87	262	105	1,160	120	108	8.5	5.9
26	4.8	24	28	52	84	226	101	1,030	98	106	8.3	5.5
27	5.3	21	22	71	83	208	103	886	90	112	7.9	5.5
28	5.5	63	26	218	92	204	100	742	84	112	3.1	5.3
29	5.6	158	28	863	- - - -	182	95	660	88	112	7.1	5.5
30	5.6	83	26	403	- - - -	164	91	605	98	109	5.9	5.5
31	6.2	- - - -	22	272	- - - -	158	- - - -	576	- - - -	111	5.1	- - - -
Total	136.7	950.5	1757	2,831	2,994	6,366	3,552	16,805	8,652	2,458	21,70.9	177.2
Mean	4.41	31.7	56.7	91.3	107	205	118	542	288	79.3	70.0	5.91
Max	6.8	158	175	863	204	596	140	1,280	516	146	123	7.7
Min	2.8	6.8	22	20	80	86	91	94	84	22	5.1	4.2
Ac-ft	271	1,890	3,480	5,620	5,940	12,630	7,050	33,330	17,160	4,880	43,10	351

Cal yr 1966: Total 18,966.6 Mean 52.0 Max 252 Min 0.8 Ac-ft 37,610
Wtr yr 1967: Total 48,850.3 Mean 134 Max 1,280 Min 2.8 Ac-ft 96,910

Peak discharge (base, 400 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
1-29	0800	5.51	1,450	5-8	2100	4.30	600
3-16	1830	4.66	796	5-23	2100	5.47	1,410
3-23	0730	4.11	524	6-19	2000	4.92	952

HONEY LAKE BASIN

10-3584.7. WILLOW CREEK TRIBUTARY NEAR SUSANVILLE, CALIF.

LOCATION.--Lat 40°29'48", long 120°33'30", in SW $\frac{1}{4}$ sec.31, T.31 N., R.13 E., on left bank at culvert on State Highway No. 139 and 7.5 miles northeast of Susanville.

DRAINAGE AREA.--3.08 sq mi.

RECORDS AVAILABLE.--Water years 1963-65 (annual maximum), October 1965 to September 1967.

GAGE.--Graphic water-stage recorder with recording rain gage attachment and crest-stage gages. Altitude of gage is 4,890 ft (from topographic map). July 16, 1962, to Aug. 30, 1965, crest-stage gages at same site and datum.

EXTREMES.--Maximum discharge during year, 43 cfs Jan. 29 (gage height, 3.65 ft); no flow for several months. 1962-67: Maximum discharge, 97 cfs Feb. 1, 1963 (gage height, 4.90 ft); no flow for several months in each year.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	0	0	6.5	6.8	0.70	0.80	1.4			
2		0	.20	0	5.0	5.8	.90	.90	.80			
3		0	.60	0	4.8	4.8	1.2	1.3	.60			
4		0	.20	0	4.5	4.0	.90	2.0	.50			
5		0	1.7	0	4.3	3.8	.80	2.1	1.3			
6		0	.40	0	4.2	4.0	.80	2.4	.80			
7		0	.40	0	4.1	4.6	1.3	3.3	.60			
8		0	.30	0	4.1	5.2	1.6	4.4	.80			
9		0	.20	0	4.2	6.4	1.8	4.3	2.6			
10		0	.30	0	4.5	5.5	1.2	3.6	1.1			
11		0	.40	0	4.6	4.4	.80	2.6	.70			
12		0	.40	0	7.2	3.8	1.3	2.2	.80			
13		0	1.4	0	8.1	5.0	1.7	1.8	.70			
14		0	.70	0	7.7	4.5	1.2	1.8	.50			
15		0	.20	0	6.0	4.5	.80	2.1	.40			
16		0	.20	0	5.2	19	.70	2.2	.40			
17		0	.10	0	6.0	17	.90	2.2	.30			
18		0	0	0	6.1	5.7	1.3	2.2	.20			
19		0	0	0	4.8	3.3	.90	2.0	.30			
20		0	0	0	4.0	2.9	.70	1.5	.20			
21		0	0	.10	4.0	4.5	.60	1.3	.20			
22		0	0	.20	4.0	3.5	.60	1.1	.20			
23		0	0	.30	4.2	4.3	.70	1.0	.20			
24		0	0	.20	4.3	2.1	1.0	.80	.10			
25		0	0	.10	4.3	1.5	.80	.70	.10			
26		0	0	.10	4.2	1.2	.70	.70	.10			
27		0	0	.20	4.5	1.6	.80	.60	.10			
28		.20	0	7.1	5.8	1.5	.50	.60	0			
29		.40	0	28	-----	1.1	.50	.60	0			
30		0	0	10	-----	.90	.60	.50	0			
31		-----	0	7.9	-----	.80	-----	.80	-----			-----
Total	0	0.60	7.70	54.20	141.2	144.00	28.30	54.40	16.00	0	0	0
Mean	0	0.02	0.25	1.75	5.04	4.65	0.94	1.75	0.53	0	0	0
Max	0	0.40	1.7	28	8.1	19	1.8	4.4	2.6	0	0	0
Min	0	0	0	0	4.0	0.80	0.50	0.50	0	0	0	0
Ac-ft	0	1.2	1.5	109	280	286	56	109	32	0	0	0
(†)	0	3.68	2.57	4.66	0.04	2.25	1.19	0.89	2.32	0.12	0	0.04

Calendar year 1966: Total 51.30 Mean 0.14 Max 10 Min 0 Ac-ft 102
 Water year 1966-67: Total 446.40 Mean 1.22 Max 28 Min 0 Ac-ft 885

† Precipitation, in inches (some precipitation falling as snow may not be included).

HONEY LAKE BASIN

541

10-3585. WILLOW CREEK NEAR SUSANVILLE, CALIF.

LOCATION.--Lat 40°29'20", long 120°32'10", in SW¼NE¼ sec.5, T.30 N., R.13 E., on left bank 4 miles upstream from Peters Valley Creek and 8 miles northeast of Susanville.

DRAINAGE AREA.--90.0 sq mi, excludes that of Eagle Lake basin.

RECORDS AVAILABLE.--October 1950 to September 1967.

GAGE.--Digital water-stage recorder. Datum of gage is 4,836.27 ft above mean sea level, unadjusted. Prior to June 24, 1965, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--17 years, 31.9 cfs (23,080 acre-ft per year).

EXTREMES.--Maximum discharge during year, 612 cfs Jan. 30 (gage height, 5.14 ft); minimum daily, 10 cfs Sept. 14, 15.

1950-67: Maximum discharge, 816 cfs Feb. 1, 1963 (gage height, 5.59 ft), from rating curve extended above 540 cfs; minimum, 8.1 cfs Nov. 16, 1951.

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

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	11	24	39	26	340	54	43	39	26	21	20	12
2	11	23	41	25	225	53	43	39	32	20	19	12
3	11	23	56	26	165	51	43	38	31	19	19	12
4	12	23	50	26	134	48	41	39	27	18	19	12
5	12	23	80	26	119	47	39	40	28	17	18	13
6	12	24	65	24	105	47	36	42	30	16	15	13
7	13	23	78	25	96	46	40	43	29	16	14	13
8	13	23	71	24	90	45	40	45	28	16	14	13
9	13	23	61	25	86	45	39	44	32	17	14	12
10	13	23	58	25	89	34	38	41	33	17	13	11
11	13	22	59	25	89	31	40	36	33	18	13	11
12	14	22	62	27	108	30	41	35	31	17	13	11
13	15	22	75	28	114	30	39	33	31	17	13	11
14	15	21	82	29	119	35	39	30	31	16	13	10
15	16	22	72	29	101	37	40	28	29	16	13	10
16	16	27	61	29	85	228	38	30	27	15	13	11
17	16	27	55	28	91	522	37	30	25	16	13	11
18	17	27	49	28	85	369	43	29	24	16	12	11
19	18	27	45	28	74	197	45	28	23	17	12	11
20	18	31	41	29	65	137	43	27	26	17	12	11
21	18	34	38	52	62	122	41	25	31	17	12	11
22	18	33	35	72	60	102	40	23	28	17	12	11
23	19	30	33	119	57	96	39	18	24	17	12	11
24	19	28	33	119	55	98	43	17	23	17	12	11
25	19	26	30	89	54	87	45	16	22	17	12	11
26	20	26	27	70	52	79	44	19	25	17	12	11
27	21	25	29	84	52	72	43	24	26	18	12	11
28	21	31	27	202	53	61	42	26	25	18	12	11
29	21	49	27	475	-----	57	41	24	24	19	11	11
30	21	43	26	578	-----	48	40	17	23	20	11	11
31	22	-----	26	461	-----	43	-----	18	-----	21	12	-----
TOTAL	498	805	1,531	2,853	2,825	2,951	1,225	943	827	540	422	341
MEAN	16.1	26.8	49.4	92.0	101	95.2	40.8	30.4	27.6	17.4	13.6	11.4
MAX	22	49	82	578	340	522	45	45	33	21	20	13
MIN	11	21	26	24	52	30	36	16	22	15	11	10
AC-FT	988	1,600	3,040	5,660	5,600	5,850	2,430	1,870	1,640	1,070	837	676

CAL YR 1966: TOTAL 8,696

MEAN 23.8

MAX 108

MIN 9.2

AC-FT 17,250

WAT YR 1967: TOTAL 15,761

MEAN 43.2

MAX 578

MIN 10

AC-FT 31,260

Peak discharge (base, 200 cfs).--Jan. 30 (0100) 612 cfs (5.14 ft); Mar. 17 (1315) 584 cfs (5.06 ft).

SURPRISE VALLEY BASIN

10-3602.3. EAGLE CREEK AT EAGLEVILLE, CALIF.

LOCATION.--Lat 41°18'45", long 120°07'26", in SW¼SE¼ sec.23, T.40 N., R.16 E., on left bank 0.6 mile southwest of Eagleville.

DRAINAGE AREA.--6.36 sq mi.

RECORDS AVAILABLE.--October 1961 to September 1964, October 1965 to September 1967.

GAGE.--Graphic water-stage recorder. Altitude of gage is 4,700 ft (from topographic map). Graphic water-stage recorder October 1961 to September 1964 at site 500 ft upstream at different datum. Digital water-stage recorder Oct. 1, 1965, to Mar. 31, 1966, at present site and datum.

AVERAGE DISCHARGE.--6 years, 7.04 cfs (5,100 acre-ft per year).

EXTREMES.--Maximum discharge during year, 55 cfs May 20 (gage height, 2.65 ft); minimum daily, 0.7 cfs on Oct. 10, 11, and 19.

1961-64, 1965-67: Maximum daily discharge, 60 cfs Feb. 1, 1963; no flow Feb. 6, 1966.

Flood of Dec. 23, 1964, reached a stage of 4.50 ft, from floodmarks, site and datum then in use (discharge, 800 cfs).

REMARKS.--Some diversion above station for irrigation.

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

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.90	0.80	4.7	1.9	1.7	1.6	2.1	1.3	21	30	5.3	2.6
2	.90	.80	3.9	1.9	1.5	1.6	1.9	1.3	20	29	5.1	2.6
3	1.0	.80	3.4	1.9	1.5	1.6	1.7	1.6	21	27	4.9	2.8
4	1.0	.90	3.4	1.9	1.5	1.7	1.6	1.9	23	27	4.9	2.8
5	.90	.90	3.0	1.9	1.5	1.7	1.6	1.9	23	24	4.7	2.9
6	.80	1.2	2.6	1.9	1.6	1.9	1.6	2.6	23	22	4.5	2.6
7	.80	1.3	2.2	1.9	1.5	2.1	1.6	6.9	24	22	4.3	2.5
8	.90	1.6	2.8	1.9	1.9	2.2	1.6	13	27	20	4.1	2.4
9	.80	2.1	2.8	1.9	1.6	2.4	1.7	16	30	18	3.9	2.4
10	.70	2.2	2.4	1.9	1.6	2.2	1.9	10	30	17	3.9	2.4
11	.70	2.2	2.2	1.7	1.7	2.2	1.9	8.0	28	17	3.7	2.4
12	1.1	2.8	2.2	1.7	1.9	2.1	1.9	6.6	22	16	3.7	2.2
13	1.0	2.8	2.2	1.9	1.7	2.2	1.9	6.2	22	14	3.6	2.2
14	1.1	2.4	2.1	1.9	1.7	2.4	1.9	7.6	21	13	3.6	2.0
15	1.0	2.4	1.9	1.9	1.6	2.4	1.9	11	23	13	3.6	2.0
16	.90	3.0	1.9	1.7	1.5	2.4	1.9	16	25	13	3.6	1.9
17	.90	2.2	1.9	1.7	1.5	2.4	1.7	21	25	11	3.6	2.0
18	.80	1.9	1.9	1.6	1.5	2.4	1.7	27	27	10	3.4	2.1
19	.70	2.8	1.9	1.6	1.6	2.4	1.7	37	26	10	3.4	2.0
20	1.0	3.7	1.7	1.7	1.6	2.4	1.7	41	24	9.0	3.4	2.1
21	.90	2.4	1.7	2.1	1.6	2.2	1.7	40	26	8.7	3.2	2.0
22	1.7	1.7	1.7	2.1	1.6	2.1	1.7	39	25	8.3	3.2	2.0
23	1.1	2.2	1.7	1.9	1.6	2.1	1.7	29	25	7.7	3.2	2.0
24	.90	2.6	1.7	1.7	1.6	2.1	1.6	27	26	7.4	3.2	2.1
25	.90	2.6	1.7	1.7	1.6	2.1	1.6	23	29	7.2	3.0	2.1
26	.90	2.8	1.7	1.6	1.5	1.9	1.6	22	33	7.2	3.3	1.9
27	.90	2.4	1.7	1.6	1.5	1.9	1.3	22	35	6.6	3.0	1.9
28	.90	4.7	1.7	1.6	1.6	1.9	1.3	22	36	6.6	2.9	1.9
29	.80	13	1.9	2.1	-----	2.1	1.3	23	36	6.3	2.9	1.9
30	.80	5.6	1.9	2.2	-----	2.1	1.3	23	31	5.7	2.9	1.9
31	.80	-----	1.9	1.9	-----	2.1	-----	23	-----	5.4	2.8	-----
Total	28.50	78.80	70.40	56.90	44.80	64.90	50.60	530.9	787	439.1	114.80	66.60
Mean	0.92	2.63	2.27	1.84	1.60	2.09	1.69	17.1	26.2	14.2	3.70	2.22
Max	1.7	13	4.7	2.2	1.9	2.4	2.1	40	36	30	5.3	2.9
Min	.70	.80	1.7	1.6	1.5	1.6	1.3	1.3	20	5.4	2.8	1.9
Ac-ft	57	156	140	113	89	129	100	1050	1560	871	228	132

Cal yr 1966: Total 1,372.7 Mean 3.76 Max 18 Min 0 Ac-ft 2,720
 Wtr yr 1967: Total 2,333.3 Mean 6.39 Max 40 Min 0.70 Ac-ft 4,630

10-3609. BIDWELL CREEK BELOW MILL CREEK, NEAR FORT BIDWELL, CALIF.

LOCATION.--Lat 41°52'55", long 120°10'25", in SE¼ sec.6, T.46 N., R.16 E., on right bank 0.9 mile downstream from Mill Creek and 2.0 miles northwest of Fort Bidwell.

DRAINAGE AREA.--25.6 sq mi.

RECORDS AVAILABLE.--October 1960 to September 1967. Prior to October 1961, published as Bidwell Creek near Fort Bidwell, Calif.

GAGE.--Graphic water-stage recorder. Altitude of gage is 5,000 ft (from topographic map). Oct. 1, 1965, to Mar. 31, 1966, digital water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--7 years, 20.4 cfs (14,770 acre-ft per year).

EXTREMES.--Maximum discharge during year, 325 cfs May 22 (gage height, 4.45 ft), from rating curve extended above 105 cfs as explained below; minimum daily, 2.4 cfs Oct. 6, 11.
1960-67: Maximum discharge, 682 cfs Dec. 24, 1964 (gage height, 5.64 ft), from rating curve extended above 105 cfs on basis of slope-area measurement of maximum flow; minimum, 1.4 cfs Nov. 5, 1960.

REMARKS.--Less than 2 cfs diverted upstream for irrigation. No storage above station.

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

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.8	3.4	11	5.9	9.1	8.8	10	12	108	31	9.4	3.9
2	2.8	3.4	10	5.9	9.5	8.8	10	12	88	30	9.0	3.8
3	2.8	3.4	9.4	5.9	7.9	8.5	10	14	85	28	8.3	3.9
4	3.0	3.4	8.5	5.9	8.5	7.9	10	16	81	26	7.9	3.9
5	2.7	3.6	8.5	5.9	8.5	8.2	11	19	85	26	7.5	4.6
6	2.4	4.2	7.9	5.9	10	8.2	11	25	96	25	7.9	4.6
7	2.7	4.4	7.4	5.9	10	8.2	12	48	100	25	7.5	4.1
8	2.7	4.2	7.1	5.4	9.7	8.8	12	78	100	23	7.1	3.9
9	2.5	4.4	7.1	5.4	9.1	10	14	148	104	22	6.8	3.9
10	2.5	5.2	6.6	5.2	9.1	10	13	129	100	21	6.5	3.9
11	2.4	6.3	6.3	5.0	9.4	10	13	85	96	20	6.3	4.9
12	2.7	7.9	7.4	5.0	9.7	9.7	12	66	92	19	6.0	4.3
13	2.7	7.4	9.4	5.9	11	9.7	13	56	78	18	6.0	4.1
14	2.7	6.3	9.1	5.6	11	3.5	13	60	72	17	5.1	3.9
15	3.0	6.6	8.5	5.4	10	8.5	12	78	75	16	4.9	3.9
16	3.3	10	7.6	5.4	9.4	12	12	137	75	19	4.9	4.1
17	3.0	7.1	7.6	5.6	9.1	15	12	172	78	18	4.6	4.1
18	2.8	6.3	7.4	5.9	8.5	15	12	208	75	16	4.6	4.1
19	3.0	9.1	7.1	5.9	8.2	14	11	232	78	15	4.6	3.9
20	3.1	14	7.4	5.4	8.2	13	11	250	78	15	4.6	4.1
21	3.4	9.4	6.6	5.4	8.5	13	11	263	75	15	4.3	3.9
22	5.0	7.6	6.3	5.6	8.2	13	11	283	66	14	4.3	4.1
23	4.4	4.0	6.3	5.9	8.5	13	11	283	59	13	4.3	4.1
24	3.8	3.8	6.3	6.1	8.8	13	11	232	51	13	4.3	3.8
25	3.6	3.8	6.3	6.3	8.8	12	11	187	48	12	4.1	3.6
26	3.4	3.8	6.3	6.6	8.5	12	12	152	44	11	4.9	3.6
27	3.4	3.8	6.3	6.8	8.5	12	12	144	42	11	4.9	3.6
28	3.4	4.8	6.1	7.9	8.5	12	12	148	40	11	4.3	3.8
29	3.4	14	5.9	16	12	12	12	160	36	11	4.1	3.9
30	3.4	13	5.9	13	11	12	12	140	33	11	3.9	3.9
31	3.6	- - - -	5.9	11	11	11	- - - -	125	- - - -	11	3.9	- - - -
Total	96.4	189.6	229.5	203.0	253.2	336.8	349	3,968	2,237	563	1,768	120.2
Mean	3.11	6.29	7.4	6.55	9.04	10.9	11.6	129	74.6	18.2	5.70	4.01
Max	5.0	14	11	16	11	15	14	283	108	31	9.4	4.9
Min	2.4	3.4	5.9	5.0	7.9	7.9	10	12	33	11	3.9	3.6
Ac-ft	191	374	455	403	502	663	692	7,970	4,440	1,120	351	238
Cal yr 1966: Total	4,004.4	Mean	11.0	Max	52	Min	2.4	Ac-ft	7,940			
Wtr yr 1967: Total	8,721.5	Mean	23.9	Max	283	Min	2.4	Ac-ft	17,300			

BUENA VISTA LAKE BASIN

11-1853. GOLDEN TROUT CREEK NEAR CARTAGO, CALIF.

LOCATION.--Lat 36°22'20", long 118°17'15", in NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.10, T.18 S., R.34 E., on right bank 0.5 mile upstream from Tunnel Ranger Station and 15 miles west of Cartago.

DRAINAGE AREA.--23.6 sq mi.

RECORDS AVAILABLE.--October 1956 to September 1967 (discontinued).

GAGE.--Graphic water-stage recorder. Altitude of gage is 8,940 ft (from topographic map).

AVERAGE DISCHARGE.--11 years, 15.6 cfs (11,290 acre-ft per year).

EXTREMES.--Maximum discharge during year, 202 cfs June 12 (gage height, 4.17 ft); maximum gage height, 6.21 ft Jan. 25 (backwater from ice); minimum daily discharge, 9.0 cfs many days.
1956-67: Maximum discharge, 202 cfs June 12, 1967 (gage height, 4.17 ft); maximum gage height, 6.21 ft Jan. 25, 1967 (backwater from ice); minimum discharge, 0.2 cfs Feb. 11, 1959.

REMARKS.--Records excellent except for those for the winter periods, which are good. No storage or diversion above station.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9.0	9.2	9.7	9.2	9.5	9.5	11	10	134	113	33	23
2	9.0	9.2	9.5	9.0	9.7	9.5	11	11	129	108	32	29
3	9.0	9.2	13	9.0	9.7	9.7	11	11	132	100	32	35
4	9.0	9.2	22	9.0	9.7	9.7	11	11	133	95	30	36
5	9.2	9.2	23	9.0	9.7	9.7	11	11	134	92	30	29
6	9.2	9.2	35	9.0	9.5	9.7	11	11	140	102	29	26
7	9.2	9.5	27	9.0	9.2	9.7	11	12	149	86	28	24
8	9.2	9.7	20	9.0	9.2	10	11	15	156	78	23	24
9	9.2	9.7	12	9.0	9.2	10	11	17	166	72	30	22
10	9.2	9.7	11	9.0	9.5	10	11	17	174	67	30	22
11	9.2	9.7	11	9.0	9.5	10	11	17	175	64	27	21
12	9.2	9.7	10	9.0	9.5	9.0	11	17	177	67	26	21
13	9.2	9.5	10	9.0	9.5	9.2	11	17	169	69	26	21
14	9.2	10	10	9.0	9.5	9.5	11	19	159	66	28	21
15	9.2	9.7	10	9.0	10	10	11	24	157	70	23	20
16	9.2	9.7	10	9.0	9.7	11	11	30	156	66	26	20
17	9.2	9.5	10	9.0	9.5	11	11	37	154	57	26	20
18	9.2	9.2	10	9.0	9.2	11	11	44	159	52	28	26
19	9.2	9.5	9.7	9.0	9.2	11	11	56	154	48	27	23
20	9.2	9.2	9.7	9.0	9.5	11	11	67	156	46	26	22
21	9.2	9.2	9.7	9.2	9.5	11	11	93	157	44	26	21
22	9.2	9.2	9.7	9.2	9.5	11	11	107	157	42	24	22
23	9.5	9.0	9.7	9.2	9.5	11	10	123	150	40	25	24
24	9.2	9.0	9.5	9.2	9.5	11	10	128	146	39	26	24
25	9.2	9.2	9.5	9.2	9.5	11	10	136	141	38	28	22
26	9.2	9.2	9.7	9.5	9.5	11	10	156	137	36	25	21
27	9.2	9.2	10	9.5	9.5	11	10	169	136	86	23	20
28	9.2	17	9.7	9.5	9.5	11	10	164	128	36	22	26
29	9.2	13	9.5	9.5	-----	11	10	164	125	48	22	24
30	9.2	11	9.5	9.5	-----	11	10	164	120	40	25	22
31	9.2	-----	9.5	9.5	-----	11	-----	153	-----	35	26	-----
Total	284.7	294.5	393.6	283.2	266.0	321.2	322	2,011	4,460	1,952	842	721
Mean	9.18	9.32	12.7	9.14	9.50	10.4	10.7	64.9	149	63.0	27.2	24.0
Max	9.5	17	35	9.5	10	11	11	169	177	113	33	36
Min	9.0	9.0	9.5	9.0	9.2	9.0	10	10	120	35	22	20
Ac-ft	565	584	801	562	529	637	639	3,990	8,850	3,870	1,670	1,430

Cal yr 1966: Total 4,735.4 Mean 13.0 Max 35 Min 8.7 Ac-ft 9,390
Wtr yr 1967: Total 12,151.2 Mean 33.3 Max 177 Min 9.0 Ac-ft 24,100

Peak discharge (base, 50 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
5-30	1800	4.08	190	7-15	1900	3.64	128
6-12	1800	4.17	202	7-29	1900	3.45	107
6-18	1600	4.12	194	9-03	1500	3.13	74
6-21	1630	4.12	194	9-04	1800	3.05	68
7-06	1700	3.77	143				

11-1853.5. KERN RIVER NEAR QUAKING ASPEN CAMP, CALIF.

LOCATION.--Lat 36°08'05", long 118°25'45", in SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.32, T.20 S., R.33 E., on right bank 0.4 mile upstream from Little Kern River and 6.8 miles east of Quaking Aspen Camp.

DRAINAGE AREA.--530 sq mi.

RECORDS AVAILABLE.--October 1960 to September 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is 4,693 ft above mean sea level (river-profile survey).

AVERAGE DISCHARGE.--7 years, 510 cfs (369,200 acre-ft per year).

EXTREMES.--Maximum discharge during year, 9,360 cfs Dec. 6 (gage height, 10.89 ft in gage well, 12.9 ft outside from floodmarks), from rating curve extended above 5,000 cfs as explained below; minimum daily, 122 cfs Oct. 1, 5, 10.

1960-67: Maximum discharge, 9,360 cfs Dec. 6, 1966 (gage height, 10.89 ft in gage well, 12.9 ft outside from floodmarks), from rating curve extended above 5,000 cfs on basis of slope-area measurement of maximum flow; minimum, 61 cfs Jan. 20, 1962.

REMARKS.--Records excellent. No regulation or diversion above station. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	122	124	258	335	382	378	510	480	2,440	4,620	1,360	740
2	124	124	296	326	371	385	514	485	2,310	4,560	1,770	763
3	127	124	401	314	364	388	502	490	2,150	4,560	1,730	800
4	124	124	273	311	357	382	510	510	2,150	4,200	1,540	935
5	122	124	1,710	308	360	374	498	520	2,140	4,070	1,570	1,080
6	124	127	6,440	296	360	371	490	550	2,190	3,540	1,490	830
7	127	145	2,030	290	368	371	494	582	2,310	3,500	1,340	736
8	127	153	1,120	284	374	374	480	582	2,470	3,240	1,190	673
9	124	150	890	281	385	382	480	855	2,590	2,350	1,130	628
10	122	150	758	275	402	385	476	900	2,730	2,720	1,140	598
11	124	150	673	281	427	392	498	855	2,880	2,640	1,100	558
12	124	148	619	284	444	416	483	825	2,960	2,800	1,090	530
13	127	145	570	284	462	416	486	820	2,960	2,950	1,120	518
14	124	143	542	287	462	420	498	855	2,820	2,970	1,120	506
15	127	143	542	290	441	427	506	950	2,920	2,930	1,100	490
16	127	143	518	293	433	702	490	1,140	3,050	3,020	1,090	476
17	127	141	498	296	424	745	490	1,430	2,340	2,820	1,060	462
18	127	136	480	296	420	655	495	1,650	2,900	2,560	965	472
19	127	136	462	295	420	610	485	1,920	3,190	2,490	940	590
20	127	231	452	296	410	586	490	2,240	2,840	2,330	900	624
21	127	205	444	350	399	582	500	2,530	3,110	2,240	880	554
22	124	165	424	350	402	586	510	2,860	3,330	2,220	850	526
23	124	155	410	344	399	594	495	3,100	3,740	2,080	805	526
24	124	148	396	295	396	582	495	3,140	3,820	2,070	900	534
25	124	145	382	281	399	566	480	3,140	4,000	2,120	975	514
26	124	143	378	385	378	550	485	3,220	4,140	2,140	1,010	483
27	124	153	344	427	378	542	505	3,140	4,140	2,010	845	462
28	124	237	347	396	378	562	520	3,130	4,040	1,930	772	472
29	124	435	357	374	- - - -	546	515	3,050	4,230	2,050	709	558
30	124	312	357	413	- - - -	522	480	2,880	4,700	2,200	673	546
31	124	- - - -	341	416	- - - -	542	- - - -	2,300	- - - -	1,940	696	- - - -
Total	3,871	4,959	23,722	9,954	11,200	15,333	14,860	51,729	92,390	88,470	34,460	18,184
Mean	125	165	765	321	400	495	495	1,669	3,080	2,354	1,112	606
Max	127	435	6,440	427	462	745	520	3,220	4,700	4,520	1,860	1,080
Min	122	124	258	275	357	371	476	480	2,140	1,940	673	462
Ac-ft	7,580	9,840	47,050	19,740	22,210	30,410	29,470	102,600	183,300	175,500	69,350	36,070

Cal yr 1966: Total 145,943 Mean 400 Max 6,440 Min 122 Ac-ft 289,500
 Wtr yr 1967: Total 369,132 Mean 1,011 Max 6,440 Min 122 Ac-ft 732,200

Peak discharge (base, 1,300 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-06	1000	10.89	9,360	6-30	0400	8.90	5,420
5-26	0130	7.45	3,420	9-04	1600	5.14	1,320

BUENA VISTA LAKE BASIN

11-1854, LITTLE KERN RIVER NEAR QUAKING ASPEN CAMP, CALIF.

LOCATION.--Lat 36°08'05", long 118°26'10", in SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.31, T.20 S., R.33 E., on right bank 600 ft upstream from mouth and 5 miles east of Quaking Aspen Camp. Prior to Sept. 26, 1967 on left bank.

DRAINAGE AREA.--132 sq mi.

RECORDS AVAILABLE.--August 1957 to September 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is 4,682 ft above mean sea level (river-profile survey).

AVERAGE DISCHARGE.--10 years, 114 cfs (82,530 acre-ft per year).

EXTREMES.--Maximum discharge during year, 13,100 cfs Dec. 6 (gage height, 12.60 ft in gage well, 13.0 ft from floodmarks), from rating curve extended above 1,200 cfs as explained below; minimum daily, 9.5 cfs Oct. 1. 1957-67: Maximum discharge, 13,100 cfs Dec. 6, 1966 (gage height, 12.60 ft in gage well, 13.0 ft from floodmarks), from rating curve extended above 1,200 cfs on basis of slope-area measurements of maximum flow; minimum, 3.5 cfs Nov. 18, 1961.

Flood of Dec. 23, 1955, reached a stage of 12.4 ft, from floodmarks (discharge, 12,200 cfs).

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9.5	10	43	202	184	190	291	270	766	945	147	53
2	12	10	127	193	172	193	284	270	686	917	142	56
3	11	10	312	184	169	193	280	280	648	850	132	60
4	10	10	100	184	169	187	283	290	648	820	130	68
5	10	10	3,110	181	175	181	280	295	653	754	124	74
6	10	11	7,880	172	184	178	277	313	653	692	117	63
7	12	25	2,160	167	190	181	277	333	702	653	104	57
8	11	26	1,200	167	193	184	266	403	743	585	97	52
9	10	22	826	161	199	187	263	498	790	520	95	50
10	10	18	692	150	214	187	266	493	808	470	93	46
11	10	17	580	142	229	190	274	448	820	448	88	44
12	10	17	516	140	235	205	274	421	838	448	84	42
13	10	16	470	140	233	205	277	412	802	452	93	40
14	10	15	412	137	235	199	280	430	784	412	104	38
15	10	16	381	137	217	196	280	466	796	398	97	37
16	10	16	361	137	211	513	280	550	820	365	84	36
17	11	17	345	137	205	605	280	680	772	325	82	36
18	11	16	329	134	208	488	280	754	814	305	80	38
19	10	15	313	134	205	394	270	826	844	291	68	41
20	10	102	298	132	196	353	275	886	784	277	65	42
21	10	56	294	193	193	345	280	973	910	263	61	40
22	10	32	277	175	190	349	285	1,060	924	246	59	40
23	10	22	270	158	190	349	280	1,110	898	232	53	40
24	10	19	260	144	190	341	270	1,120	898	226	64	40
25	10	18	249	169	193	333	265	1,130	917	220	68	48
26	10	17	242	161	181	321	275	1,080	898	211	71	43
27	10	20	226	161	178	317	285	1,050	886	199	64	43
28	10	156	223	158	184	321	290	973	892	199	60	43
29	10	142	223	158	---	317	280	959	924	199	55	61
30	10	65	211	203	---	298	270	924	959	184	51	59
31	10	---	205	220	---	305	---	886	---	167	52	---
Total	317.5	946	23,140	5,036	5,527	8,810	8,322	20,588	24,287	13,273	2,689	1,435
Mean	10.2	31.5	746	162	197	284	277	664	810	428	86.7	47.8
Max	12	156	7,870	220	238	605	291	1,130	959	945	147	74
Min	9.5	10	48	132	169	178	263	270	648	167	51	36
Ac-ft	630	1,980	45,900	9,990	10,960	17,470	16,510	40,840	48,170	26,330	5,330	2,950

Cal yr 1966 : Total 47,865.0 Mean 131 Max 7,870 Min 8.0 Ac-ft 94,940
 Wtr yr 1967 : Total 114,370.5 Mean 313 Max 7,870 Min 9.5 Ac-ft 226,900

Peak discharge (base, 400 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-28	1900	3.31	474	3-16	1800	4.98	838
12-03	0100	3.90	760	5-24	2130	5.57	1,270
12-06	0600	12.60	13,100	6-29	2000	5.38	1,110

11-1860. KERN RIVER NEAR KERNVILLE, CALIF.

LOCATION.--Lat 35°56'00", long 118°29'10", in NE $\frac{1}{4}$ sec.14, T.23 S., R.32 E., on left bank 3 miles upstream from Salmon Creek and 15 miles north of Kernville.

DRAINAGE AREA.--848 sq mi.

RECORDS AVAILABLE.--January 1912 to September 1967. Records for water year 1912 incomplete, yearly estimates published in WSP 1315-A. Prior to October 1953, records for river and canal published separately; combined only, October 1953 to September 1962.

GAGE.--Graphic water-stage recorder on river; graphic water-stage recorder and rectangular concrete-lined flume for canal diversion. Datum of gage is 3,542.3 ft above mean sea level (river-profile survey). Prior to Apr. 1, 1913, at site 0.2 mile downstream at different datum. Apr. 1 to Sept. 14, 1913, staff gage and Sept. 15, 1913 to Feb. 20, 1922, graphic water-stage recorder, at present site at datum 5.00 ft higher.

AVERAGE DISCHARGE (river only).--9 years (1911-20), 790 cfs (571,900 acre-ft per year); 46 years (1921-67), 323 cfs (233,800 acre-ft per year); median of yearly mean discharges, 210 cfs (152,000 acre-ft per year).
(total flow).--56 years (1911-67), 705 cfs (510,400 acre-ft per year); median of yearly mean discharges, 625 cfs (452,000 acre-ft per year).

EXTREMES (river only).--Maximum discharge during year, 60,000 cfs Dec. 6 (gage height, 22.77 ft, from floodmarks), from rating curve extended above 6,000 cfs as explained below; minimum daily, 25 cfs Sept. 29.
1912-67: Maximum discharge, 60,000 cfs Dec. 6, 1966 (gage height, 22.77 ft, from floodmarks), from rating curve extended above 6,000 cfs on basis of computed flow over dam at gage height 17.55 ft (basic data for computation furnished by Southern California Edison Co.) and slope-area measurement of maximum flow; no flow July 31 to Nov. 7, Nov. 12 to Dec. 7, 1924, Jan. 16 to Feb. 7, 1925.
(combined).--Maximum discharge during year, 60,000 cfs Dec. 6; minimum daily, 128 cfs Oct. 1.
1912-67: Maximum discharge, 60,000 cfs Dec. 6, 1966; minimum daily, 78 cfs Aug. 30, 31, Sept. 17, 19, 1924.

REMARKS.--Records fair. Since 1921 Kern River No. 3 Canal diverts up to 630 cfs 1 mile above station, from left bank of Kern River in sec.12, T.23 S., R.32 E., for power development; water is returned to river 12 miles below station. For records of combined discharge of river and canal, see following page. Records of chemical analyses and water temperature for the water year 1967 are published in Part 2 of this report.

COOPERATION.--Gage-height record and 17 discharge measurements for Kern River and gage-height record and 13 discharge measurements for canal furnished by Southern California Edison Co. in connection with a Federal Power Commission project.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	105	50	37	103	234	92	434	482	3,250	6,220	1,520	241
2	108	44	49	84	156	126	432	520	2,700	6,020	1,410	341
3	80	44	526	101	124	139	382	563	2,560	6,060	1,360	394
4	52	45	27	107	106	85	432	664	2,560	5,660	1,260	428
5	52	45	11,700	96	108	62	442	651	2,550	5,280	1,180	662
6	52	45	33,600	60	112	69	409	710	2,550	4,460	1,100	452
7	52	46	7,700	63	121	76	376	869	2,800	4,440	970	327
8	52	46	3,540	66	126	82	382	1,080	3,060	3,950	810	247
9	51	44	2,200	63	134	73	362	1,490	3,300	3,340	726	194
10	49	44	1,900	65	158	77	351	1,790	3,500	3,050	734	146
11	50	44	1,600	58	198	77	380	1,440	3,650	2,820	686	104
12	50	44	1,500	45	234	136	382	1,280	3,820	3,050	662	76
13	51	43	1,400	50	244	181	402	1,220	3,840	3,270	670	57
14	51	42	1,300	63	242	160	431	1,250	3,640	3,440	726	61
15	51	41	1,250	55	190	156	482	1,430	3,700	3,390	674	80
16	51	41	1,150	59	181	670	482	1,880	4,020	3,430	686	80
17	51	41	1,100	60	164	1,190	432	2,180	3,780	3,430	626	78
18	53	41	1,100	58	158	835	476	2,510	3,800	2,840	590	91
19	54	41	1,000	58	158	686	480	2,960	3,300	2,450	509	159
20	53	46	960	59	139	638	507	3,340	3,760	2,290	470	159
21	55	42	900	139	116	631	518	3,840	4,160	2,090	442	100
22	54	40	850	112	115	625	543	4,400	4,900	2,050	411	81
23	54	41	637	66	108	483	483	4,680	4,800	1,870	376	88
24	54	41	244	70	98	592	582	4,980	4,820	1,830	425	102
25	53	41	173	65	114	571	562	5,000	5,020	1,870	492	88
26	54	41	174	104	90	511	591	5,040	5,200	1,900	590	83
27	54	41	113	151	85	482	659	4,920	5,200	1,740	453	81
28	54	48	131	133	88	515	593	4,640	5,080	1,620	352	52
29	54	147	87	122	-----	502	560	4,460	5,480	1,780	271	25
30	54	38	77	257	-----	441	482	4,160	6,100	1,930	214	61
31	54	-----	118	429	-----	481	-----	3,910	-----	1,660	203	-----
Total	1,762	1,397	77,143	3,021	4,101	11,580	14,029	78,339	116,900	99,230	21,598	5,138
Mean	56.8	46.6	2,488	97.5	146	374	468	2,527	3,897	3,201	697	172
Max	108	147	33,600	429	244	1,190	659	5,040	6,100	6,220	1,520	662
Min	49	38	27	45	85	62	351	482	2,550	1,620	203	25
Ac-ft	3,490	2,770	153,000	5,990	8,130	22,970	27,830	155,400	231,900	196,800	42,840	10,190

Cal yr 1966: Total 132,033 Mean 362 Max 33,600 Min 27 Ac-ft 261,900
Wtr yr 1967: Total 434,238 Mean 1,190 Max 33,600 Min 25 Ac-ft 861,300

Note.--No gage-height record at river gage Dec. 6-14.

11-1860. Kern River near Kernville, Calif.--Continued

Combined discharge, in cubic feet per second, of Kern River and Kern River No. 3 Canal near Kernville, Calif., water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	128	141	309	630	810	676	1,050	1,100	3,840	6,820	2,120	837
2	131	140	338	600	747	675	1,050	1,140	3,300	6,620	2,100	936
3	138	140	1,040	600	720	689	1,000	1,170	3,160	6,660	1,950	989
4	138	141	438	600	701	704	1,050	1,250	3,160	6,160	1,850	1,020
5	138	142	12,000	590	711	667	1,040	1,250	3,150	5,880	1,770	1,260
6	137	143	33,600	565	714	664	1,020	1,310	3,150	5,060	1,700	1,050
7	139	174	7,700	560	723	657	1,000	1,480	3,400	5,040	1,540	922
8	140	195	3,540	550	728	660	1,000	1,700	3,660	4,550	1,400	843
9	138	184	2,200	540	735	673	980	2,100	3,900	3,940	1,320	790
10	133	169	1,900	540	751	676	970	2,380	4,100	3,650	1,330	741
11	135	168	1,600	530	765	675	1,000	2,040	4,250	3,420	1,280	699
12	136	166	1,500	520	803	755	1,000	1,900	4,420	3,650	1,260	671
13	136	161	1,400	520	809	797	1,020	1,840	4,440	3,870	1,260	641
14	137	158	1,300	547	809	772	1,050	1,860	4,240	4,040	1,320	631
15	137	157	1,250	546	760	766	1,100	2,040	4,300	4,000	1,270	623
16	139	156	1,150	547	752	1,280	1,100	2,480	4,620	4,040	1,280	605
17	140	158	1,100	547	737	1,800	1,050	2,780	4,380	4,030	1,210	585
18	142	158	1,100	541	729	1,450	1,080	3,110	4,400	3,440	1,180	610
19	140	158	1,000	534	728	1,300	1,100	3,560	4,900	3,050	1,100	745
20	138	309	960	528	710	1,250	1,120	3,940	4,360	2,880	1,060	753
21	139	332	900	679	703	1,230	1,140	4,440	4,760	2,690	1,040	693
22	140	214	850	664	723	1,230	1,160	5,000	5,500	2,650	1,010	651
23	139	193	830	614	719	1,230	1,100	5,280	5,400	2,470	975	656
24	140	172	790	614	700	1,210	1,200	5,540	5,420	2,430	1,020	686
25	139	170	750	574	728	1,190	1,180	5,600	5,620	2,470	1,090	662
26	140	161	748	658	690	1,130	1,200	5,640	5,800	2,500	1,190	625
27	139	173	680	724	664	1,100	1,250	5,520	5,800	2,340	1,050	588
28	140	260	660	705	668	1,130	1,200	5,240	5,680	2,220	956	545
29	140	712	660	695	- - - -	1,120	1,180	5,060	6,080	2,380	875	585
30	140	398	650	830	- - - -	1,060	1,100	4,760	6,700	2,530	813	645
31	140	- - - -	640	1,000	- - - -	1,100	- - - -	4,510	- - - -	2,260	801	- - - -
Total	4,276	6,103	83,583	18,892	20,537	30,316	32,490	97,020	135,890	117,740	40,120	22,287
Mean	138	203	2,696	609	733	978	1,083	3,130	4,530	3,798	1,294	743
Max	142	712	33,600	1,000	810	1,800	1,250	5,640	6,700	6,820	2,120	1,260
Min	128	140	309	520	664	657	970	1,100	3,150	2,220	801	545
Ac-ft	8,480	12,110	165,800	37,470	40,730	60,130	64,440	192,400	269,500	233,500	79,580	44,210
Cal yr 1966 : Total	235,857		Mean	646	Max	33,600	Min	127	Ac-ft	467,800		
Wtr yr 1967 : Total	609,254		Mean	1,669	Max	33,600	Min	128	Ac-ft	1,208,000		

BUENA VISTA LAKE BASIN

549

11-1863.4. SALMON CREEK TRIBUTARY B NEAR FAIRVIEW, CALIF.

LOCATION.--Lat 35°54'05", long 118°23'05", in SE¼NE¼ sec.26, T.23 S., R.33 E., on left bank 0.15 mile upstream from junction with Salmon Creek, 6.3 miles east of Fairview, and 10.3 miles north of Kernville.

DRAINAGE AREA.--0.46 sq mi.

RECORDS AVAILABLE.--October 1962 to September 1967. December 1960 to September 1962 (incomplete) in files of U.S. Forest Service.

GAGE.--Graphic water-stage recorder with float-operated recording rain gage and sharp-crested 120° V-notch weir. Altitude of gage is 7,360 ft (from topographic map).

AVERAGE DISCHARGE.--5 years, 0.176 cfs (127 acre-ft per year).

EXTREMES.--Maximum discharge during year, 22.1 cfs Dec. 6 (gage height, 1.93 ft, result of release of stored water from debris jam), by slope-area measurement of maximum flow; minimum daily, 0.003 cfs for many days. 1962-67: Maximum discharge, 22.1 cfs Dec. 6, 1966 (gage height, 1.93 ft, result of release of stored water from debris jam), by slope-area measurement of maximum flow; minimum daily, 0.002 cfs Aug. 21-23, Sept. 26, 1966.

REMARKS.--Records poor prior to June 15, good thereafter. No storage or diversion above station.

Discharge, in cubic feet per second, water year October 1966 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.003	0.003	0.004	0.20	0.09	0.07	0.26	0.29	2.52	0.37	0.09	0.04
2	.003	.003	.03	.19	.08	.07	.24	.29	2.30	.35	.09	.04
3	.003	.003	.08	.19	.08	.07	.24	.29	2.08	.32	.08	.04
4	.003	.003	.02	.17	.08	.07	.22	.30	1.88	.30	.08	.03
5	.003	.003	2.66	.16	.08	.07	.22	.35	1.81	.30	.08	.03
6	.003	.003	11.0	.15	.08	.07	.20	.40	1.68	.28	.07	.03
7	.003	.003	4.40	.14	.08	.07	.20	.51	1.56	.28	.07	.03
8	.003	.003	2.40	.13	.08	.07	.20	.95	1.51	.26	.07	.03
9	.003	.003	1.39	.13	.08	.07	.20	1.18	1.45	.24	.07	.03
10	.003	.003	1.04	.12	.07	.07	.20	1.09	1.34	.22	.06	.03
11	.003	.003	.82	.12	.07	.07	.20	.99	1.29	.20	.06	.03
12	.003	.003	.67	.11	.07	.07	.20	.95	1.23	.24	.06	.03
13	.004	.003	.60	.11	.07	.08	.21	1.04	1.15	.22	.06	.03
14	.004	.003	.54	.11	.08	.08	.21	1.18	1.07	.20	.06	.02
15	.003	.003	.48	.11	.08	.08	.22	1.56	.99	.20	.05	.02
16	.003	.003	.42	.11	.08	.16	.23	2.30	.95	.20	.05	.02
17	.003	.003	.40	.11	.08	.18	.25	2.85	.91	.18	.05	.02
18	.003	.003	.37	.11	.08	.18	.27	3.29	.82	.17	.05	.04
19	.003	.003	.35	.11	.08	.18	.28	3.58	.78	.17	.05	.03
20	.003	.01	.32	.11	.07	.18	.28	3.97	.74	.15	.05	.02
21	.003	.004	.30	.13	.07	.18	.28	4.40	.71	.15	.05	.02
22	.003	.004	.30	.10	.07	.22	.28	4.62	.64	.14	.05	.03
23	.003	.003	.28	.09	.07	.24	.28	4.97	.60	.14	.04	.05
24	.003	.003	.28	.09	.07	.26	.28	4.97	.57	.13	.04	.05
25	.003	.003	.28	.09	.07	.26	.28	4.51	.54	.13	.05	.03
26	.003	.003	.26	.09	.07	.26	.29	3.97	.51	.11	.04	.03
27	.003	.003	.24	.09	.07	.28	.29	3.67	.45	.11	.04	.03
28	.003	.01	.22	.09	.07	.30	.29	3.48	.45	.11	.03	.03
29	.003	.006	.22	.09	-----	.28	.29	3.20	.42	.11	.03	.03
30	.003	.004	.22	.09	-----	.28	.29	2.94	.40	.10	.03	.03
31	.003	-----	.20	.09	-----	.28	-----	2.68	-----	.10	.03	-----
Total	0.095	0.110	30.794	3.72	2.12	4.80	7.38	70.77	33.35	6.18	1.73	0.94
Mean	0.003	0.004	0.993	0.120	0.076	0.155	0.246	2.283	1.112	0.199	0.056	0.031
Max	0.004	0.01	11.0	0.20	0.09	0.30	0.29	4.97	2.52	0.37	0.09	0.05
Min	0.003	0.003	0.004	0.09	0.07	0.07	0.20	0.29	0.40	0.10	0.03	0.02
Ac-ft	0.2	0.2	61.0	7.4	4.2	9.5	14.6	140	66.1	12.3	3.43	1.9
(†)	0	2.72	13.90	1.58	0.22	2.18	4.63	1.33	0.20	0.86	0.36	3.66

Calendar year 1966: Total 45.551 Mean 0.125 Max 11.0 Min 0.002 Ac-ft 90.3
 Water year 1966-67: Total 161.989 Mean 0.444 Max 11.0 Min 0.003 Ac-ft 321

† Precipitation in inches (some falling as snow may not be included).

Precipitation in inches, 1966 water year, not previously published

October	November	December	January	February	March	April	May	June	July	August	September
0	4.9	5.2	1.3	0.9	0.2	0.1	0	0.1	0	0.2	0

BUENA VISTA LAKE BASIN

11-1863.6. SALMON CREEK TRIBUTARY C NEAR FAIRVIEW, CALIF.

LOCATION.--Lat 35°54'15", long 118°23'30", in NE¼NW¼ sec.26, T.23 S., R.33 E., on left bank 0.1 mile upstream from junction with Salmon Creek, 6.0 miles east of Fairview, and 10.5 miles north of Kernville.

DRAINAGE AREA.--0.30 sq mi.

RECORDS AVAILABLE.--October 1962 to September 1967. December 1960 to September 1962 (incomplete) in the files of U.S. Forest Service.

GAGE.--Graphic water-stage recorder and sharp-crested 120° V-notch weir. Altitude of gage is 7,200 ft (from topographic map).

AVERAGE DISCHARGE.--5 years, 0.125 cfs (90 acre-ft per year).

EXTREMES.--Maximum discharge during year, 60 cfs Dec. 6 (gage height, 2.71 ft, from floodmarks), by slope-area measurement of maximum flow; minimum daily, 0.008 cfs for many days.
1962-67: Maximum discharge, 60 cfs Dec. 6, 1966 (gage height, 2.71 ft, from floodmarks), by slope-area measurement of maximum flow; minimum daily, 0.004 cfs Aug. 12, 16, 19, 23-27, 1966.

REMARKS.--Records good except those for Dec. 6 to June 9, which are poor. No storage or diversion above station.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.008	0.008	0.02	0.19	0.11	0.11	0.44	0.46	1.29	0.24	0.09	0.09
2	.01	.008	.07	.18	.10	.11	.43	.47	1.18	.22	.08	.09
3	.01	.008	.09	.17	.10	.13	.42	.48	1.13	.22	.08	.08
4	.008	.01	.05	.16	.09	.13	.42	.50	1.04	.22	.08	.07
5	.008	.01	2.31	.16	.08	.13	.42	.55	.95	.20	.08	.07
6	.008	.01	18.0	.15	.08	.13	.42	.61	.86	.20	.08	.06
7	.008	.01	7.00	.14	.09	.13	.42	.67	.82	.18	.07	.05
8	.008	.02	3.70	.14	.09	.14	.42	.99	.76	.18	.07	.05
9	.008	.01	2.20	.13	.08	.14	.41	1.23	.70	.18	.07	.05
10	.008	.01	1.20	.13	.09	.14	.41	1.18	.64	.17	.07	.05
11	.008	.01	.90	.12	.10	.14	.41	1.18	.60	.15	.07	.05
12	.008	.01	.70	.12	.10	.14	.41	1.29	.60	.20	.07	.05
13	.008	.01	.60	.11	.10	.14	.42	1.56	.57	.18	.08	.05
14	.008	.01	.52	.11	.10	.14	.42	1.39	.54	.18	.08	.05
15	.008	.02	.48	.10	.10	.11	.42	1.34	.51	.17	.07	.05
16	.008	.02	.43	.10	.10	.28	.42	1.51	.48	.17	.07	.05
17	.01	.02	.39	.10	.10	.35	.42	1.81	.45	.17	.07	.05
18	.01	.01	.37	.10	.11	.35	.42	2.15	.45	.15	.07	.08
19	.01	.01	.35	.09	.11	.35	.43	2.22	.42	.14	.06	.07
20	.01	.04	.32	.08	.11	.35	.43	2.15	.42	.14	.06	.05
21	.008	.02	.31	.10	.11	.36	.43	2.22	.40	.14	.05	.05
22	.008	.02	.29	.11	.11	.37	.43	2.22	.37	.13	.05	.05
23	.008	.01	.28	.10	.11	.38	.44	2.22	.35	.11	.05	.09
24	.01	.01	.27	.18	.10	.40	.44	2.22	.35	.11	.06	.09
25	.008	.01	.26	.10	.10	.42	.44	2.15	.32	.11	.06	.07
26	.008	.01	.25	.10	.10	.43	.45	2.08	.30	.10	.06	.07
27	.008	.01	.24	.08	.10	.44	.45	1.81	.30	.10	.05	.07
28	.008	.03	.23	.08	.11	.45	.45	1.68	.28	.10	.05	.06
29	.008	.02	.22	.09	- - - -	.45	.46	1.56	.26	.10	.05	.08
30	.008	.02	.21	.09	- - - -	.45	.46	1.51	.26	.10	.05	.07
31	.008	- - - -	.20	.11	- - - -	.45	- - - -	1.34	- - - -	.09	.05	- - - -
Total	0.262	0.424	42.46	3.72	2.78	8.24	12.86	44.75	17.60	4.85	2.05	1.91
Mean	0.008	0.014	1.370	0.120	0.099	0.266	0.429	1.444	0.587	0.156	0.066	0.064
Max	0.01	0.04	18.0	0.19	0.11	0.45	0.46	2.22	1.29	0.24	0.09	0.09
Min	0.008	0.008	0.02	0.08	0.08	0.11	0.41	0.46	0.26	0.09	0.05	0.05
Ac-ft	0.5	0.8	84.2	7.4	5.5	16.3	25.5	88.8	34.9	9.6	4.1	3.8

Cal yr 1966: Total 54,276 Mean 0.149 Max 18.0 Min 0.004 Ac-ft 103
Wtr yr 1967: Total 141,906 Mean 0.389 Max 18.0 Min 0.009 Ac-ft 281

Note.--No gage-height record Dec. 6 to Jan. 19, Mar. 21 to May 6.

11-1863.8. SALMON CREEK TRIBUTARY E NEAR FAIRVIEW, CALIF.

LOCATION.--Lat 35°54'15", long 118°23'45", in NW¼NW¼ sec.26, T.23 S., R.33 E., on left bank 0.2 mile upstream from junction with Salmon Creek, 5.7 miles east of Fairview, and 10.5 miles north of Kernville.

DRAINAGE AREA.--0.23 sq mi.

RECORDS AVAILABLE.--October 1962 to September 1967. July 1961 to September 1962 in files of U.S. Forest Service.

GAGE.--Graphic water-stage recorder and sharp-crested 120° V-notch weir. Altitude of gage is 7,200 ft (from topographic map).

AVERAGE DISCHARGE.--5 years, 0.073 cfs (53 acre-ft per year).

EXTREMES.--Maximum discharge during year, 24 cfs Dec. 6 (gage height, unknown), by slope-area measurement of maximum flow; minimum daily, 0.001 cfs Oct. 5, 6, 10-14.
1962-67: Maximum discharge, 24 cfs Dec. 6, 1966 (gage height, unknown), by slope-area measurement of maximum flow; minimum daily, 0.001 cfs for several days in 1966.

REMARKS.--Records good except those for period of no gage-height record, which are poor. No storage or diversion above station.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.002	0.002	0.008	0.11	0.05	0.04	0.18	0.18	0.82	0.14	0.05	0.05
2	.002	.002	.01	.10	.05	.04	.18	.18	.78	.14	.05	.04
3	.002	.002	.03	.10	.05	.04	.18	.18	.71	.13	.04	.03
4	.002	.002	.008	.09	.05	.04	.18	.18	.64	.13	.03	.03
5	.001	.003	.69	.09	.05	.04	.17	.22	.60	.13	.03	.03
6	.001	.003	10.0	.08	.04	.04	.17	.24	.57	.11	.03	.03
7	.002	.004	5.40	.08	.04	.04	.17	.32	.54	.11	.03	.02
8	.002	.004	2.50	.07	.04	.03	.15	.60	.51	.11	.03	.02
9	.002	.003	1.40	.07	.04	.03	.15	.91	.48	.10	.03	.02
10	.001	.003	.72	.07	.04	.03	.15	.95	.42	.10	.03	.02
11	.001	.003	.51	.06	.04	.03	.15	.91	.40	.09	.03	.02
12	.001	.003	.42	.06	.04	.03	.15	.82	.37	.11	.03	.02
13	.001	.003	.36	.06	.04	.03	.15	.82	.37	.10	.03	.02
14	.001	.003	.32	.05	.04	.04	.17	.86	.35	.09	.03	.02
15	.002	.003	.29	.05	.04	.04	.17	.99	.32	.09	.04	.02
16	.002	.004	.26	.05	.04	.09	.17	1.23	.30	.09	.04	.02
17	.002	.004	.24	.05	.04	.13	.17	1.34	.30	.08	.04	.02
18	.002	.004	.22	.05	.04	.11	.17	1.23	.28	.08	.05	.03
19	.002	.004	.21	.05	.04	.11	.17	1.39	.26	.08	.05	.03
20	.002	.01	.19	.05	.04	.11	.17	1.45	.26	.07	.05	.02
21	.002	.01	.18	.05	.04	.13	.17	1.51	.24	.07	.05	.02
22	.002	.008	.17	.05	.04	.14	.18	1.51	.22	.07	.05	.02
23	.002	.008	.17	.05	.04	.15	.18	1.51	.20	.06	.05	.03
24	.002	.008	.16	.05	.04	.15	.18	1.62	.20	.06	.05	.03
25	.002	.008	.16	.05	.04	.17	.18	1.51	.20	.06	.05	.02
26	.002	.008	.15	.05	.04	.17	.18	1.29	.18	.06	.05	.02
27	.002	.008	.15	.05	.04	.17	.18	1.18	.17	.05	.05	.02
28	.002	.01	.14	.05	.04	.18	.18	1.09	.17	.05	.05	.02
29	.002	.01	.13	.05	- - - -	.18	.18	.99	.15	.05	.05	.02
30	.002	.01	.12	.05	- - - -	.18	.18	.91	.14	.05	.05	.02
31	.002	- - - -	.12	.05	- - - -	.18	- - - -	.86	- - - -	.05	.05	- - - -
Total	0.055	0.157	25.436	1.94	1.17	2.89	5.11	28.98	11.15	2.71	1.29	0.73
Mean	0.002	0.005	0.821	0.063	0.042	0.093	0.170	0.935	0.372	0.087	0.042	0.024
Max	0.002	0.01	10.0	0.11	0.05	0.18	0.18	1.62	0.82	0.14	0.05	0.05
Min	0.001	0.002	0.008	0.05	0.04	0.03	0.15	0.18	0.14	0.05	0.03	0.02
Ac-ft	0.1	0.3	50.5	3.8	2.3	5.7	10.1	57.5	22.1	5.4	2.6	1.4
Cal yr 1966 Total	28.927			Mean 0.079	Max 10.0	Min 0.001	Ac-ft 57.4					
Wtr yr 1967 Total	81.618			Mean 0.224	Max 10.0	Min 0.001	Ac-ft 162					

Note.--No gage-height record Dec. 6 to Jan. 17.

BUENA VISTA LAKE BASIN

11-1870. KERN RIVER AT KERNVILLE, CALIF.

LOCATION.--Lat 35°45'35", long 118°25'10", in NE¼NW¼ sec.15, T.25 S., R.33 E., on left bank 1.7 miles upstream from Caldwell Creek, 9.5 miles upstream from Isabella Dam, and 42 miles northeast of Bakersfield. Prior to Feb. 21, 1967, at site 0.6 mile downstream.

DRAINAGE AREA.--1,009 sq mi.

RECORDS AVAILABLE.--January 1905 to December 1912, October 1953 to September 1967. Monthly discharge only for some periods, published in WSP 1315-A.

GAGE.--Graphic water-stage recorder. Datum of gage is 2,634.57 ft above mean sea level. January 1905 to September 1912, staff gage at two sites 3.5 miles downstream at different datums. October 1953 to Feb. 20, 1967, 0.6 mile downstream at datum 2,621.57 ft above mean sea level.

AVERAGE DISCHARGE.--21 years, 851 cfs (616,100 acre-ft per year); median of yearly mean discharges, 700 cfs (507,000 acre-ft per year).

EXTREMES.--Maximum discharge during year, 74,000 cfs Dec. 6 (gage height, 22.2 ft from floodmarks), from rating curve extended above 6,400 cfs on basis of slope-area measurement of maximum flow; minimum daily, 126 cfs Oct. 1.

1905-12, 1953-67: Maximum discharge, that of Dec. 6, 1966; minimum discharge, 74 cfs Oct. 27, 1954, Aug. 1, Oct. 4, 1961.

Maximum stage known since at least 1912, 18.4 ft Nov. 19, 1950 (discharge, 38,700 cfs).

REMARKS.--Records good except those for period of no gage-height record, which are poor. Slight regulation at times by operation of Kern River No. 3 canal and powerplant. A few small diversions for irrigation above station. Gilbert irrigation ditch diverts up to 7 cfs around station during irrigation season. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

COOPERATION.--Eight discharge measurements furnished by the Southern California Edison Co.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	126	134	330	730	1,120	850	1,150	1,210	3,920	6,850	2,130	840
2	123	136	334	710	860	855	1,120	1,240	3,310	6,650	2,010	932
3	152	132	1,310	705	780	871	1,100	1,270	3,200	6,680	1,940	954
4	145	132	539	700	785	860	1,140	1,360	3,190	6,180	1,840	954
5	133	132	16,900	690	795	840	1,130	1,350	3,170	5,900	1,750	1,240
6	133	134	44,500	675	800	800	1,120	1,410	3,170	5,080	1,680	1,020
7	139	170	10,600	660	820	800	1,110	1,520	3,400	5,040	1,530	855
8	138	197	4,890	645	840	825	1,080	1,740	3,680	4,560	1,410	795
9	134	194	3,120	630	890	830	1,070	2,120	3,920	3,950	1,330	760
10	130	180	2,600	620	920	830	1,060	2,400	4,110	3,660	1,310	710
11	123	177	2,210	610	970	830	1,120	2,060	4,260	3,440	1,250	680
12	130	174	2,020	600	1,020	850	1,120	1,910	4,440	3,660	1,220	645
13	132	170	1,820	605	1,060	954	1,150	1,850	4,460	3,890	1,230	625
14	132	167	1,690	610	1,080	926	1,200	1,870	4,260	4,050	1,300	615
15	134	167	1,600	620	1,060	926	1,190	2,040	4,310	4,000	1,240	601
16	136	167	1,380	620	990	1,270	1,150	2,480	4,640	4,050	1,240	578
17	139	170	1,260	620	945	1,980	1,170	2,800	4,400	4,050	1,180	574
18	138	165	1,240	620	930	1,600	1,180	3,120	4,420	3,440	1,170	578
19	133	159	1,080	610	910	1,430	1,200	3,570	4,920	3,050	1,070	595
20	133	303	1,040	600	900	1,350	1,200	3,950	4,380	2,380	1,040	725
21	136	395	1,000	800	883	1,330	1,220	4,460	4,780	2,700	1,020	705
22	138	231	950	780	876	1,320	1,240	5,020	5,500	2,660	983	655
23	138	200	920	720	876	1,330	1,200	5,300	5,420	2,480	954	630
24	138	167	890	640	866	1,310	1,260	5,560	5,440	2,440	983	640
25	138	167	860	700	871	1,280	1,220	5,600	5,640	2,490	1,060	635
26	136	156	820	770	871	1,220	1,280	5,660	5,800	2,500	1,130	596
27	136	165	780	860	850	1,190	1,350	5,540	5,820	2,360	1,010	560
28	136	213	770	800	840	1,220	1,350	5,240	5,700	2,230	893	542
29	134	766	770	800	---	1,200	1,290	5,080	6,100	2,380	835	583
30	134	475	760	1,440	---	1,140	1,220	4,730	6,680	2,520	800	645
31	134	---	750	1,920	---	1,180	---	4,510	---	2,280	785	---
Total	4,209	6,299	109,783	23,110	25,413	34,197	35,390	98,020	136,440	118,100	39,333	21,567
Mean	136	210	3,541	745	908	1,103	1,180	3,162	4,548	3,810	1,269	719
Max	152	766	44,500	1,920	1,120	1,980	1,350	5,660	6,680	6,850	2,130	1,240
Min	126	132	330	600	780	800	1,060	1,210	3,170	2,230	785	542
Ac-ft	8,350	12,490	217,800	45,840	50,410	67,830	70,200	194,400	270,600	234,200	78,020	42,780

Cal yr 1966: Total 271,300 Mean 743 Max 44,500 Min 117 Ac-ft 538,100
 Wtr yr 1967: Total 651,261 Mean 1,786 Max 44,500 Min 125 Ac-ft 1,293,000

Peak discharge (base, 2,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-03	0800	7.43	2,360	5-10	0430	6.98	2,720
12-06	----	22.2	74,000	5-26	0600	8.85	5,900
3-17	0100	6.86	2,570	7-01	0900	9.48	7,450

Note: No gage-height record Dec. 6 to Feb. 20.

11-1875. BOREL CANAL BELOW ISABELLA DAM, CALIF.

LOCATION.--Lat 35°38'30", long 118°28'10", in NE¼ sec.30, T.26 S., R.33 E., on right bank 500 ft downstream from Isabella Dam and 3 miles upstream from point where canal crosses Erskine Creek.

RECORDS AVAILABLE.--January 1910 to September 1914, October 1925 to September 1967. Monthly discharge only for some periods, published in WSP 1315-A. Published as Kern River Power Co.'s Canal at or near Kernville 1910-14. Published as "at Tillie Creek" 1925-51.

GAGE.--Graphic water-stage recorder. Altitude of gage is 2,540 ft (from topographic map). Prior to Apr. 29, 1952, at site 4 miles upstream at different datum.

AVERAGE DISCHARGE.--46 years, 365 cfs (264,200 acre-ft per year).

EXTREMES.--1910-14, 1925-67: Maximum daily discharge, 634 cfs Mar. 13, 14, 1952; no flow at times.

REMARKS.--Records excellent. Canal diverts from right bank of Kern River 5.5 miles upstream from Isabella dam, and above South Fork Kern River. When capacity of Isabella Reservoir is above 110,000 acre-ft, the diversion is at the dam. Canal is used to supply Borel powerplant of Southern California Edison Co., 6 miles downstream from station, at which point water is returned to Kern River. Water temperatures for the water year 1967 are published in Part 2 of this report.

COOPERATION.--Water-stage-recorder graph and 26 discharge measurements furnished by Southern California Edison Co. in connection with a Federal Power Commission project.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	120	133	353	542	0	572	593	572	586	587	560	484
2	120	141	315	542	0	572	593	572	578	587	558	484
3	139	139	424	542	0	562	593	571	580	586	558	484
4	141	140	421	542	0	562	565	570	581	475	558	484
5	130	138	371	535	0	564	562	572	582	527	558	484
6	135	140	344	526	0	564	556	572	583	566	557	484
7	140	166	307	526	0	564	558	574	584	573	556	487
8	141	202	351	526	0	564	558	572	585	574	556	486
9	137	205	350	526	0	564	558	572	585	574	556	486
10	134	185	392	526	0	563	557	573	585	576	559	485
11	133	179	416	526	0	563	556	574	585	577	558	484
12	135	178	417	526	0	563	557	574	581	577	544	484
13	137	175	470	526	0	563	556	574	584	576	536	345
14	136	171	532	526	0	563	557	574	582	575	537	476
15	138	169	548	526	111	563	558	574	583	576	539	486
16	141	169	548	526	0	564	557	574	586	577	536	485
17	143	170	548	526	0	564	557	556	589	577	537	485
18	143	169	548	526	0	563	558	558	587	577	539	489
19	143	162	549	526	0	563	576	557	589	577	538	486
20	142	226	550	526	357	563	576	557	590	577	537	486
21	141	417	548	526	572	592	575	558	588	576	537	487
22	142	256	541	526	563	594	574	558	588	576	537	486
23	142	219	546	526	565	589	574	558	588	580	536	490
24	141	196	550	526	567	592	574	558	588	580	536	487
25	141	188	550	526	567	593	574	558	589	578	535	514
26	140	179	550	526	566	593	574	578	588	576	531	537
27	139	185	550	417	566	591	574	582	588	566	537	533
28	138	210	550	300	569	593	574	582	589	566	537	534
29	137	404	548	300	-----	595	574	584	589	568	504	534
30	136	423	542	30	-----	594	572	584	589	569	484	534
31	136	-----	542	0	-----	592	-----	584	-----	563	484	-----
Total	4,261	6,039	14,771	14,769	5,003	17,801	17,040	17,676	17,569	17,689	16,735	14,690
Mean	137	201	476	476	179	574	568	570	586	571	540	490
Max	143	423	550	542	572	595	593	584	590	587	560	537
Min	120	138	307	0	0	562	556	556	578	475	484	345
Ac-ft	8,450	11,980	29,300	29,300	9,920	35,310	33,800	35,060	34,850	35,090	33,190	29,140
Cal yr 1966: Total	151,337		Mean 415	Max 574	Min 0	Ac-ft 300,200						
Wtr yr 1967: Total	164,043		Mean 449	Max 595	Min 0	Ac-ft 325,400						

BUENA VISTA LAKE BASIN

11-1882. SOUTH FORK KERN RIVER NEAR OLANCHA, CALIF.

LOCATION.--Lat 36°11'00", long 118°07'40", in NW¼SW¼ sec.18, T.20 S., R.36 E., on left bank 50 ft upstream from small unnamed left bank tributary, 2.0 miles downstream from Snake Creek, and 9.7 miles southwest of Olancha.

DRAINAGE AREA.--146 sq mi.

RECORDS AVAILABLE.--October 1956 to September 1967 (discontinued).

GAGE.--Graphic water-stage recorder. Altitude of gage is 7,840 ft (from topographic map).

AVERAGE DISCHARGE.--11 years, 53.9 cfs (39,020 acre-ft per year).

EXTREMES.--Maximum discharge during year, 1,590 cfs May 22 (gage height, 5.87 ft); minimum daily, 7.8 cfs Oct. 1.
1956-67: Maximum discharge, 1,590 cfs May 22, 1967 (gage height, 5.87 ft); minimum daily, 0.1 cfs July 20 to Aug. 3, 1961.

REMARKS.--Records good except those for the winter period, which are poor. No storage or diversion above station.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.8	9.4	25	32	40	44	204	152	580	224	74	51
2	8.1	9.1	24	31	40	44	186	163	605	215	69	63
3	8.1	9.4	24	31	42	43	182	133	562	203	65	65
4	8.1	9.4	17	31	45	42	180	241	533	195	62	99
5	8.4	8.8	42	30	46	42	162	273	513	193	53	143
6	8.8	9.4	613	30	43	42	170	300	502	197	54	81
7	8.8	11	664	30	51	43	162	400	490	213	52	62
8	8.8	12	440	30	54	44	157	514	482	178	50	52
9	8.4	13	311	30	56	44	159	685	470	162	53	46
10	8.4	13	253	29	57	45	162	655	463	150	61	41
11	8.4	12	199	29	56	46	162	586	449	141	51	38
12	8.4	11	157	29	56	47	152	562	435	140	43	36
13	8.4	11	128	29	54	44	162	546	418	184	47	34
14	8.1	11	111	29	50	52	182	600	396	215	59	33
15	8.1	11	102	29	43	96	184	715	379	190	64	31
16	8.8	11	94	29	46	105	172	370	379	195	53	30
17	8.1	10	38	29	48	193	176	990	359	178	53	29
18	9.1	9.4	73	29	43	241	173	1,040	341	152	50	34
19	9.1	9.1	69	29	46	236	159	1,160	353	134	45	69
20	9.1	23	64	30	44	241	166	1,240	372	121	44	49
21	9.4	26	64	33	44	268	155	1,320	326	109	45	38
22	9.1	15	56	36	44	292	146	1,360	305	101	45	37
23	9.1	10	47	35	44	314	145	1,280	292	94	41	37
24	9.1	9.2	46	32	43	317	143	1,190	282	92	47	47
25	9.1	8.9	43	34	41	295	136	1,130	270	89	43	41
26	9.1	8.9	42	35	41	278	150	1,130	262	82	52	36
27	9.1	10	36	35	42	292	163	1,070	250	81	41	32
28	9.1	16	35	37	43	332	163	973	243	73	37	61
29	9.1	84	34	39	---	255	155	894	236	87	34	52
30	9.1	34	33	44	---	243	143	835	229	107	32	43
31	9.1	---	32	42	---	215	---	900	---	83	44	---
Total	269.7	445.0	3,976	997	1,312	4,840	4,931	23,877	11,886	4,588	1,583	1,510
Mean	3.70	14.8	128	32.2	46.9	156	164	770	396	148	51.1	50.3
Max	9.4	84	664	44	57	332	204	1,360	680	224	74	143
Min	7.8	3.8	17	29	40	42	136	152	229	78	32	29
Ac-ft	535	383	7,890	1,980	2,600	9,600	9,780	47,360	23,580	9,100	3,140	3,000

Cal yr 1966 Total 16,573.8 Mean 45.4 Max 664 Min 4.2 Ac-ft 32,870
Wtr yr 1967 Total 60,214.7 Mean 165 Max 1,360 Min 7.8 Ac-ft 119,400

Peak discharge (base, 150 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-06	2000	4.98	1,010	7-14	0100	3.21	255
5-27	2300	3.68	393	9-05	0400	2.84	180
5-22	0200	5.87	1,590				

11-1895. SOUTH FORK KERN RIVER NEAR ONYX, CALIF.

LOCATION (revised).--Lat 35°44'22", long 118°10'33", T.25 S., R.35 E., on left bank three quarters of a mile north of State Highway 178, 1.6 miles upstream from Canebrake Creek, and 5 miles northeast of Onyx.

DRAINAGE AREA.--530 sq mi.

RECORDS AVAILABLE.--September 1911 to August 1914, January 1919 to September 1942, October 1947 to September 1967. Yearly estimate for water year 1927 (incomplete) and monthly discharge only for some periods, published in WSP 1315-A.

GAGE.--Graphic water-stage recorder. Altitude of gage is 2,900 ft (from topographic map). Sept. 12, 1911, to Aug. 31, 1914, staff gage and Jan. 23, 1919, to Apr. 17, 1936, graphic water-stage recorder, at site 140 ft upstream at same datum. Prior to Feb. 9, 1966, at datum 4.88 ft lower.

AVERAGE DISCHARGE.--43 years (1911-13, 1919-25, 1926-27, 1929-42, 1946-67), 106 cfs (76,740 acre-ft per year); median of yearly mean discharges, 75 cfs (54,300 acre-ft per year).

EXTREMES.--Maximum discharge during year, 28,700 cfs Dec. 6 (gage height, 16.9 ft from floodmarks, present datum), from rating curve extended above 3,000 cfs as explained below; minimum daily, 7.6 cfs Oct. 9, 10. 1911-14, 1919-42, 1947-67: Maximum discharge, 28,700 cfs Dec. 6, 1966 (gage height, 16.9 ft from floodmarks, present datum), from rating curve extended above 3,000 cfs on basis of slope-area measurement of maximum flow; no flow for several days in 1929, 1934, 1960-61.

REMARKS.--Records good except those for period of no gage-height record, which are poor. Lowell and Thomas ditches divert above station for irrigation of 160 acres below station; combined capacity, 7 cfs.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.9	11	55	158	200	178	398	370	1,220	385	123	88
2	8.3	12	55	152	170	180	394	380	1,070	365	106	114
3	8.6	13	176	150	164	190	380	398	992	354	92	120
4	8.6	12	79	145	164	190	387	439	956	334	87	113
5	8.6	12	3,480	142	166	173	373	500	904	326	83	142
6	8.3	13	14,000	140	170	178	370	515	880	323	78	158
7	7.9	19	2,410	138	176	178	370	510	864	326	75	112
8	8.3	30	1,200	135	180	180	345	776	840	312	72	93
9	7.6	29	900	132	190	190	348	1,070	832	280	74	89
10	7.6	29	700	130	200	190	356	1,160	824	255	93	83
11	7.9	29	600	130	198	195	373	1,030	816	236	89	76
12	8.6	26	530	130	220	195	366	929	816	228	80	68
13	8.6	22	465	130	230	195	370	904	792	242	79	64
14	7.9	21	420	130	228	169	390	904	752	337	81	59
15	8.3	21	385	130	198	176	404	1,000	736	323	96	56
16	8.3	22	360	130	198	238	373	1,200	728	312	107	54
17	8.3	24	325	130	198	366	394	1,400	728	330	104	54
18	8.6	24	310	130	200	408	384	1,500	696	271	94	57
19	8.3	23	280	132	202	412	387	1,600	659	236	85	90
20	8.6	28	265	140	192	408	387	1,700	712	212	76	91
21	8.3	57	250	168	180	427	398	1,800	659	193	76	74
22	7.9	52	235	160	178	455	404	1,900	593	179	73	71
23	9.0	36	225	150	185	486	390	1,930	550	169	74	73
24	10	28	215	144	188	496	394	1,840	510	156	73	77
25	12	24	205	152	185	496	362	1,740	496	152	74	79
26	12	22	195	166	176	468	387	1,710	481	142	77	75
27	13	21	186	180	171	439	415	1,650	458	131	75	69
28	12	26	180	170	171	530	423	1,560	450	127	66	63
29	11	57	172	170	-----	491	404	1,480	425	130	60	68
30	11	92	168	200	-----	415	373	1,390	405	137	54	87
31	11	-----	162	400	-----	435	-----	1,310	-----	142	56	-----
Total	282.3	835	29,188	4,794	5,378	9,727	11,499	36,695	21,849	7,645	2,537	2,517
Mean	9.11	27.8	942	155	188	314	383	1,184	728	247	81.8	83.9
Max	13	92	14,000	400	230	530	423	1,930	1,220	385	123	158
Min	7.6	11	55	130	164	169	345	370	405	127	54	54
Ac-ft	560	1,660	57,890	9,510	10,470	19,290	22,810	72,780	43,340	15,160	5,030	4,990
Cal yr 1966: Total	45,790.9	Mean	125	Max	14,000	Min	1.3	Ac-ft	90,820			
Wtr yr 1967: Total	132,846.3	Mean	364	Max	14,000	Min	7.6	Ac-ft	263,500			

Peak discharge (base, 180 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-03	0500	3.15	282	5-23	1100	5.18	2,170
12-06	-----	16.9	28,700	7-14	1500	3.12	373
3-28	1200	3.71	617	9-05	2200	2.41	184
5-09	1300	4.60	1,430				

Note.-- No gage-height record Dec. 6 to Feb. 8.

BUENA VISTA LAKE BASIN

11-1897. KELSO CREEK NEAR WELDON, CALIF.

LOCATION.--Lat 35°34'10", long 118°15'05", in NW¼ sec.20, T.27 S., R.35 E., on left bank 0.5 mile upstream from Woolstaff Creek and 7 miles southeast of Weldon.

DRAINAGE AREA.--101 sq mi.

RECORDS AVAILABLE.--August 1958 to Dec. 5, 1966 (discontinued).

GAGE.--Graphic water-stage recorder and sharp-crested steel weir. Altitude of gage is 3,180 ft (from topographic map).

AVERAGE DISCHARGE.--8 years (1958-66), 1.32 cfs (956 acre-ft per year).

EXTREMES.--Maximum discharge, about 5,800 cfs Dec. 6 (gage height, 11.7 ft, from floodmarks); minimum daily, 0.90 cfs many days.

1958-66: Maximum discharge, that of Dec. 6, 1966; minimum, 0.50 cfs July 23, 1962.

REMARKS.--Records good. Small diversions for irrigation above station. Station destroyed by Dec. 6, 1966 flood.

DISCHARGE, IN CUBIC FEET PER SECOND, PERIOD OCTOBER TO DECEMBER 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.90	1.1	0.90									
2	.90	1.1	.90									
3	.90	1.1	1.0									
4	.90	1.1	1.0									
5	.90	1.1	-									
6	1.0	1.0	-									
7	1.0	1.1	-									
8	.90	1.0	-									
9	.90	1.0	-									
10	.90	1.0	-									
11	1.0	1.0	-									
12	1.0	1.0	-									
13	1.0	.90	-									
14	1.0	.90	-									
15	1.0	.90	-									
16	1.0	.90	-									
17	1.0	.90	-									
18	1.0	.90	-									
19	1.0	.90	-									
20	1.0	.90	-									
21	1.1	.90	-									
22	1.1	.90	-									
23	1.1	.90	-									
24	1.1	.90	-									
25	1.1	.90	-									
26	1.1	.90	-									
27	1.1	.90	-									
28	1.1	.90	-									
29	1.1	.90	-									
30	1.1	.90	-									
31	1.1	- - - -	-		- - - -		- - - -		- - - -			- - - -
Total	31.3	28.8	-									
Mean	1.01	0.96	-									
Max	1.1	1.1	-									
Min	0.90	0.90	-									
Ac-ft	62	57	-									

Cal yr 1966: Total - Mean - Max - Min - Ac-ft -

Wtr yr 1967: Total - Mean - Max - Min - Ac-ft -

11-1905. ISABELLA RESERVOIR NEAR ISABELLA, CALIF.

LOCATION.--Lat 35°38'50", long 118°28'50", in SW $\frac{1}{4}$ sec.19, T.26 S., R.33 E., in main control tower near left abutment of main dam on Kern River, 1.5 miles north of Isabella, and 2.8 miles upstream from Erskine Creek.

DRAINAGE AREA.--2,074 sq mi.

RECORDS AVAILABLE.--October 1953 to September 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is at mean sea level (levels by Corps of Engineers).

EXTREMES.--Maximum contents during year, 538,700 acre-ft July 20 (elevation, 2,602.71 ft); minimum, 81,940 acre-ft Nov. 27 (elevation, 3,541.28 ft).

1953-67: Maximum contents, 538,700 acre-ft July 20, 1967 (elevation, 2,602.71 ft); minimum since appreciable storage was first attained, 4,330 acre-ft Apr. 21, 1955.

REMARKS.--Reservoir is formed by earth-fill dam with sidehill spillway and auxiliary earth-fill dam, completed in 1954; regulation began Apr. 15, 1954. Usable capacity, 569,700 acre-ft between elevations 2,470.0 ft (invert of main outlet) and 2,605.5 ft (spillway crest) above mean sea level. Dead storage, 326 acre-ft. Surcharge flood control storage, 271,800 acre-ft between ungated spillway crest and elevation 2,627.0 ft (maximum design spillway flood pool). Records, including extremes, represent total contents at 2400 hours. Water is released to Kern River through tunnel in left abutment of main dam and to Borel Canal (see sta. no. 1875) through concrete conduit in auxiliary dam.

COOPERATION.--Records furnished by Corps of Engineers.

Contents, in thousands of acre-feet, at 2400 hours, October 1966 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	88.75	83.20	82.71	309.7	231.7	253.5	281.8	293.9	374.3	481.8	524.4	368.4
2	89.36	83.05	83.01	306.3	233.3	253.3	283.0	292.5	376.8	488.5	522.2	365.0
3	87.97	82.90	84.62	302.3	234.8	253.1	284.2	290.9	378.9	495.0	519.8	361.3
4	87.66	82.71	85.30	297.5	236.2	253.1	285.7	289.4	380.8	502.6	517.1	357.9
5	87.35	82.53	116.7	293.1	237.5	253.0	287.1	288.3	382.6	508.7	513.9	354.5
6	87.08	82.46	260.4	288.3	238.8	252.8	288.3	287.1	384.4	512.6	501.6	351.0
7	86.86	82.42	292.7	283.4	240.2	252.5	289.6	286.1	386.4	516.3	506.9	347.3
8	86.70	82.42	304.5	278.7	241.6	252.3	291.0	285.4	388.8	519.3	503.0	343.3
9	86.55	82.42	311.9	274.3	242.8	252.0	292.2	285.8	391.9	521.4	499.1	339.5
10	86.36	82.38	317.5	270.5	244.3	251.9	293.4	287.4	395.7	522.9	494.3	335.5
11	86.13	82.34	322.0	266.9	245.8	251.9	294.7	287.8	399.7	524.2	489.3	331.7
12	85.90	82.31	325.4	263.7	247.4	251.9	296.1	287.4	404.1	525.6	484.2	328.5
13	85.48	82.31	328.5	260.3	249.0	252.2	297.5	287.0	408.8	527.4	478.7	325.2
14	85.22	82.27	330.9	257.1	250.8	252.3	298.5	286.7	413.5	529.6	473.1	322.1
15	84.99	82.23	333.0	253.9	252.2	252.4	299.6	286.8	418.1	531.9	467.4	319.2
16	84.84	82.16	334.8	250.8	253.6	253.1	300.4	287.8	423.2	534.2	461.6	315.9
17	84.73	82.12	336.3	247.8	254.6	256.1	301.0	289.9	425.8	536.3	455.3	313.0
18	84.62	82.12	336.8	244.6	255.1	258.3	301.4	293.1	428.2	537.3	448.7	310.2
19	84.54	82.09	336.9	241.6	255.6	260.4	301.1	297.1	431.4	537.6	442.0	307.4
20	84.47	82.16	337.2	238.7	255.8	262.2	300.6	301.6	433.4	538.7	435.3	304.7
21	84.39	82.12	337.4	236.5	255.8	264.0	300.3	307.2	435.8	539.0	428.5	301.9
22	84.35	82.09	336.8	235.4	255.8	265.8	300.0	313.9	438.4	537.0	421.7	299.1
23	84.32	82.05	335.4	234.2	255.5	267.5	299.5	321.2	441.0	535.7	414.9	296.5
24	84.32	82.01	333.3	233.5	255.2	269.4	299.1	328.4	443.9	534.5	408.0	293.9
25	84.28	81.98	331.1	232.4	254.7	271.0	298.5	335.3	446.9	533.3	401.8	291.4
26	84.24	81.98	328.9	231.0	254.4	272.5	297.9	342.4	449.8	532.4	396.7	288.7
27	84.09	81.94	326.2	229.8	254.2	274.0	297.5	349.2	455.3	531.2	391.4	286.0
28	83.98	82.05	322.9	228.5	253.8	275.6	297.1	355.5	461.2	529.7	386.1	283.0
29	83.76	82.64	319.8	227.8	-----	277.1	296.3	361.4	467.7	528.6	381.3	279.9
30	83.53	82.79	316.6	228.1	-----	278.4	295.3	366.3	474.8	527.7	377.0	276.7
31	83.34	-----	313.3	229.6	-----	280.3	-----	371.2	-----	526.3	372.8	-----
(+)	2541.66	2541.51	2579.50	2568.68	2572.01	2575.46	2577.33	2586.11	2596.75	2601.58	2586.29	2575.00
(#)	-5340	-550	+230.500	-83.700	+24.200	+26.500	+15.000	+75.900	+103.600	+51.500	-153.500	-96.100
(++)	1.819	767	929	969	1.071	1.375	1.701	3.932	5.960	8.058	8.058	4.573
Max	88.750	83.200	337.400	309.700	255.800	280.300	301.400	371.200	474.300	538.700	524.400	368.400
Min	83.340	81.940	82.710	227.800	231.700	251.900	281.300	285.400	374.300	481.800	372.800	276.700

Calendar year 1966..... † +142,100 Max 337,400 Min 81,940
 Water year 1966-67..... † +187,520 Max 538,700 Min 81,940

† Elevation, in feet, at end of month.

Change in contents, in acre-feet.

++ Evaporation, in acre-feet.

BUENA VISTA LAKE BASIN

11-1910. KERN RIVER BELOW ISABELLA DAM, CALIF.

LOCATION.--Lat 35°38'30", long 118°28'55", in S $\frac{1}{4}$ sec.30, T.26 S., R.33 E., on right bank 200 ft downstream from highway bridge, 0.6 mile downstream from Isabella Dam, and 1.6 miles southwest of Isabella.

DRAINAGE AREA.--2,074 sq mi.

RECORDS AVAILABLE.--April 1945 to September 1967. Prior to October 1952, published as "below Isabella damsite."

GAGE.--Digital water-stage recorder. Datum of gage is 2,435.07 ft above mean sea level (levels by Corps of Engineers). Prior to Mar. 12, 1952, water-stage recorder at site 0.6 mile upstream at different datum. Mar. 12, 1952, to July 26, 1953, staff gage at present site and datum.

AVERAGE DISCHARGE.--22 years, 811 cfs (587,100 acre-ft per year), adjusted for diversion to Borel Canal since 1945 and for change in storage and evaporation from Isabella Reservoir since 1954.

EXTREMES.--Maximum discharge during year, 4,170 cfs Aug. 17 (gage height, 14.04 ft); minimum daily, 5.0 cfs Dec. 4-13.

1945-53 (prior to regulation by Isabella Reservoir): Maximum discharge, 39,000 cfs Nov. 19, 1950 (gage height, 28.6 ft from floodmark, present site and datum), from rating curve extended above 1,100 cfs on basis of slope-area measurement of maximum flow; minimum, 2.1 cfs (regulated) Nov. 27, 1951.

1954-67: Maximum discharge, 4,870 cfs (revised) June 28, 1958 (gage height, 15.14 ft); no flow Oct. 29, 1954, Mar. 22, 1960.

REVISIONS.--The maximum discharge for the period 1954-67 has been revised to 4,870 cfs June 28, 1958 (gage height, 15.14 ft), superseding figure published in WSP 1565, 1635, 1715, State Report 1961-66.

REMARKS.--Records good. Flow regulated by Isabella Reservoir (see sta. no. 1905) beginning Apr. 15, 1954. Borel Canal (see sta. no. 1875) diverts above station. Diversion for irrigation of 3,500 acres between head of Isabella Reservoir and upstream stations. An additional 6,500 acres in reservoir can be irrigated when reservoir stage is low. Records of chemical analyses for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	179	81	35	2,150	428	469	281	1,730	2,700	2,280	2,520	2,440
2	179	63	25	2,180	425	469	281	1,800	2,640	2,280	2,570	2,340
3	183	66	8.0	2,310	425	447	255	1,940	2,560	2,280	2,620	2,320
4	161	70	5.0	2,720	435	387	202	1,940	2,560	1,340	2,650	2,340
5	140	70	12	2,720	450	393	216	1,960	2,560	1,840	2,760	2,380
6	131	51	31	2,720	425	422	216	2,040	2,560	2,200	2,760	2,390
7	96	22	7.9	2,740	412	422	181	2,140	2,560	2,320	2,730	2,370
8	75	13	8.6	2,770	412	422	181	2,240	2,560	2,350	2,750	2,320
9	75	12	8.0	2,600	412	422	187	2,470	2,430	2,300	2,760	2,270
10	78	17	5.8	2,150	412	391	219	2,320	2,160	2,250	3,080	2,250
11	94	20	5.0	2,080	412	375	216	2,570	2,170	2,300	3,320	2,130
12	120	22	5.0	2,030	412	396	221	2,570	2,120	2,300	3,310	1,940
13	122	22	5.0	1,980	412	385	272	2,570	1,940	2,310	3,560	1,990
14	95	22	6.0	1,860	412	384	393	2,570	1,830	2,330	3,740	1,810
15	74	22	7.0	1,810	301	433	507	2,570	1,820	2,280	3,710	1,690
16	63	20	7.0	1,810	414	388	594	2,610	2,040	2,240	3,750	1,690
17	60	18	167	1,820	599	273	689	2,660	3,020	2,240	4,020	1,680
18	57	18	651	1,820	862	224	969	2,620	3,030	2,340	4,100	1,690
19	31	18	651	1,670	900	209	1,220	2,580	3,080	2,350	4,100	1,690
20	13	18	651	1,590	596	200	1,260	2,840	3,140	1,900	4,100	1,730
21	13	18	711	1,540	401	222	1,320	2,840	3,320	2,620	4,100	1,740
22	13	18	944	1,250	462	215	1,320	2,860	3,650	2,620	4,100	1,700
23	13	14	1,260	1,080	559	195	1,320	2,920	3,610	2,620	4,090	1,630
24	13	12	1,440	1,130	630	174	1,320	2,920	3,520	2,570	4,060	1,620
25	13	12	1,440	1,110	586	190	1,340	2,880	3,560	2,500	3,750	1,610
26	27	9.8	1,560	1,170	564	208	1,410	2,660	3,630	2,500	3,170	1,580
27	60	8.0	1,800	1,270	523	221	1,460	2,670	2,450	2,500	3,170	1,580
28	92	8.0	1,960	1,410	469	221	1,460	2,680	2,170	2,500	3,090	1,700
29	96	8.0	1,900	1,060	-----	221	1,520	2,680	2,210	2,500	2,730	1,990
30	96	7.0	1,870	1,220	-----	221	1,640	2,690	2,250	2,500	2,520	1,790
31	96	-----	2,130	1,220	-----	243	-----	2,690	-----	2,500	2,520	-----
TOTAL	2,558	779.8	19,316.3	56,990	13,750	9,842	22,670	77,230	79,850	71,960	102,210	58,400
MEAN	82.5	26.0	623	1,838	491	317	756	2,491	2,662	2,321	3,297	1,947
MAX	183	81	2,130	2,770	900	469	1,640	2,920	3,650	2,620	4,100	2,440
MIN	13	7.0	5.0	1,060	301	174	181	1,730	1,820	1,340	2,520	1,580
AC-FT	5,070	1,550	38,310	113,000	27,270	19,520	44,970	153,200	158,400	142,700	202,700	115,800
MEAN †	155	231	4,863	986	1,125	1,354	1,604	4,359	5,090	3,871	1,471	898
AC-FT†	9,510	13,740	299,000	60,620	62,460	83,230	95,470	268,000	302,900	238,000	90,450	53,410

CAL YEAR 1966 TOTAL 88,763.6 MEAN 243 MAX 2,130 MIN 4.2 AC-FT 176,100 MEAN † 897 AC-FT † 649,700
WAT YEAR 1967 TOTAL 515,556.1 MEAN 1,412 MAX 4,100 MIN 5.0 AC-FT 1,023,000 MEAN † 2,178 AC-FT † 1,577,000

† Adjusted for change in contents and evaporation from Isabella Reservoir and for diversion to Borel Canal.

11-1925. KERN RIVER NEAR DEMOCRAT SPRINGS, CALIF.

LOCATION.--Lat 35°31'20", long 118°40'40", in NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.6, T.28 S., R.31 E., on left bank 1.0 mile southwest of Democrat Springs and 2.1 miles upstream from Cow Creek.

DRAINAGE AREA.--2,258 sq mi.

RECORDS AVAILABLE.--July 1950 to September 1967. Prior to October 1954, records for river and conduit published separately; combined only, October 1954 to September 1962.

GAGE.--Graphic water-stage recorder on river; graphic water-stage recorder for conduit diversion. Altitude of gage is 1,850 ft (from topographic map).

AVERAGE DISCHARGE (river only).--17 years, 515 cfs (372,800 acre-ft per year), unadjusted.
(total flow).--17 years, 864 cfs (625,500 acre-ft per year), adjusted for storage.

EXTREMES (river only).--Maximum discharge during year, 10,100 cfs Dec. 6 (gage height, 18.55 ft); minimum daily, 2 cfs for several days.

1950-53 (prior to regulation by Isabella Reservoir): Maximum discharge, 40,000 cfs Nov. 19, 1950 (gage height, 30.7 ft), from rating curve extended above 8,700 cfs on basis of computation of maximum flow over dam (basic data for computation furnished by Southern California Edison Co.); minimum daily, 0.7 cfs Nov. 17-19, 1951.

1954-67: Maximum discharge, 10,100 cfs Dec. 6, 1966 (gage height, 18.55 ft); minimum daily, 0.1 cfs Oct. 30 to Nov. 12, 1955.

(combined).--Maximum discharge during year, 10,100 cfs Dec. 6; minimum daily, 154 cfs Oct. 25, 1966.

1950-53 (prior to regulation by Isabella Reservoir): Maximum discharge, 40,000 cfs Nov. 19, 1950; minimum daily, 123 cfs Sept. 22, 1951.

1954-67: Maximum discharge, 10,100 cfs Dec. 6, 1966 (gage height, 18.55 ft); minimum daily, 99 cfs Oct. 3, 1961.

REMARKS.--Records fair. Kern River No. 1 conduit diverts up to 420 cfs from left bank of Kern River in sec.13, T.28 S., R.30 E., for power development; water is returned to river 7 miles below station. Flow regulated by Isabella Reservoir beginning in 1954 (see sta. no. 1905). Many diversions above station for irrigation. For records of combined discharge of river and conduit, see following page.

COOPERATION.--Gage-height record and 12 discharge measurements for river and gage-height record and 14 discharge measurements for conduit furnished by Southern California Edison Co. in connection with a Federal Power Commission project.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	16	4	54	2,310	128	680	496	1,880	2,880	2,450	2,650	2,600
2	2	5	4	2,350	116	690	492	1,900	2,880	2,450	2,670	2,470
3	2	17	67	2,410	71	660	463	2,050	2,740	2,450	2,780	2,440
4	2	2	80	2,860	80	610	411	2,060	2,740	2,240	2,790	2,450
5	2	2	531	2,880	113	600	407	2,070	2,750	1,710	2,880	2,510
6	12	2	4,440	2,870	68	630	418	2,120	2,750	2,340	2,930	2,530
7	2	19	1,040	2,880	57	622	417	2,260	2,740	2,490	2,880	2,500
8	2	10	270	2,940	52	630	414	2,320	2,750	2,530	2,880	2,470
9	2	10	94	2,870	51	620	409	2,580	2,700	2,500	2,910	2,390
10	10	2	82	2,330	50	591	436	2,500	2,390	2,420	3,100	2,380
11	26	10	80	2,250	50	583	456	2,680	2,400	2,500	3,480	2,270
12	15	6	87	2,190	50	584	441	2,670	2,390	2,500	3,460	2,060
13	12	3	88	2,150	48	583	469	2,660	2,200	2,500	3,640	1,940
14	5	6	155	2,020	46	554	592	2,650	2,070	2,510	3,850	1,900
15	2	6	172	1,970	50	603	710	2,650	2,050	2,490	3,840	1,800
16	2	3	172	1,960	59	582	800	2,670	2,080	2,430	3,830	1,780
17	7	4	266	1,960	234	486	877	2,720	3,180	2,430	4,040	1,780
18	4	4	830	2,000	486	431	1,130	2,730	3,280	2,500	4,120	1,800
19	4	6	833	1,870	519	406	1,390	2,590	3,320	2,580	4,160	1,800
20	5	61	846	1,800	578	395	1,400	2,920	3,440	2,330	4,170	1,790
21	7	102	885	1,720	618	431	1,490	2,920	3,530	2,500	4,170	1,800
22	6	50	1,100	1,490	660	431	1,540	2,930	4,030	2,800	4,190	1,790
23	6	50	1,360	1,270	750	406	1,520	3,020	4,020	2,800	4,200	1,700
24	6	34	1,640	1,320	820	391	1,520	3,020	3,880	2,780	4,200	1,700
25	6	31	1,630	1,280	795	405	1,520	3,010	3,910	2,660	4,090	1,700
26	19	10	1,680	1,360	775	502	1,580	2,840	4,030	2,660	3,440	1,700
27	20	20	1,960	1,390	745	810	1,640	2,850	3,110	2,650	3,400	1,700
28	15	30	2,060	1,410	690	819	1,640	2,850	2,270	2,650	3,390	1,700
29	4	74	2,110	1,020	---	785	1,680	2,870	2,280	2,650	3,020	2,100
30	4	56	1,990	937	---	492	1,780	2,870	2,380	2,650	2,660	1,900
31	3	---	2,310	918	---	478	---	2,880	---	2,650	2,680	---
Total	230	639	28,916	60,985	8,759	17,490	28,538	80,740	87,170	77,800	106,500	61,450
Mean	7.42	21.3	933	1,967	313	564	951	2,605	2,906	2,510	3,435	2,048
Max	26	102	4,440	2,940	820	819	1,780	3,020	4,030	2,800	4,200	2,600
Min	2	2	4	918	46	391	407	1,880	2,050	1,710	2,650	1,700
Ac-ft	456	1,270	57,350	121,000	17,370	34,690	56,600	160,100	172,900	154,300	211,200	121,900

Cal yr 1966: Total 119,399.8 Mean 327 Max 4,440 Min 2 Ac-ft 236,800
Wtr yr 1967: Total 559,217 Mean 1,532 Max 4,440 Min 2 Ac-ft 1,109,000

Note.--No gage-height record at river station Oct. 1 to Dec. 5, Jan. 29 to Apr. 18.

Combined discharge, in cubic feet per second, of Kern River and Kern River No. 1 conduit near Democrat Springs, Calif., water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.		
1	321	235	418	2,680	500	1,060	880	2,270	3,280	2,850	3,030	2,990		
2	292	221	359	2,740	495	1,070	880	2,290	3,270	2,850	3,050	2,860		
3	312	207	430	2,800	450	1,040	850	2,440	3,130	2,850	3,150	2,830		
4	320	213	452	3,230	460	989	803	2,450	3,130	2,640	3,160	2,840		
5	284	213	903	3,250	495	980	802	2,460	3,140	2,110	3,250	2,900		
6	273	214	4,600	3,240	450	1,010	810	2,510	3,140	2,740	3,300	2,920		
7	261	200	1,090	3,250	440	1,000	810	2,650	3,130	2,900	3,260	2,890		
8	219	228	601	3,310	440	1,010	808	2,710	3,150	2,940	3,260	2,860		
9	214	230	478	3,240	440	998	803	2,970	3,100	2,910	3,300	2,780		
10	218	205	463	2,710	440	970	831	2,890	2,790	2,820	3,490	2,770		
11	230	204	459	2,620	440	960	854	3,070	2,800	2,900	3,870	2,660		
12	258	204	468	2,570	440	960	837	3,060	2,790	2,900	3,850	2,450		
13	270	201	475	2,520	440	960	865	3,050	2,600	2,900	4,030	2,330		
14	256	197	538	2,390	440	930	988	3,040	2,470	2,910	4,240	2,290		
15	215	194	556	2,340	440	980	1,100	3,050	2,450	2,900	4,230	2,190		
16	208	193	556	2,330	440	960	1,190	3,070	2,480	2,840	4,220	2,170		
17	205	191	650	2,330	615	865	1,270	3,120	3,580	2,840	4,430	2,170		
18	202	190	1,220	2,370	866	810	1,510	3,130	3,680	2,900	4,520	2,190		
19	195	185	1,220	2,240	900	785	1,780	2,990	3,720	2,970	4,560	2,190		
20	162	243	1,230	2,170	960	775	1,800	3,320	3,840	2,720	4,570	2,180		
21	156	444	1,270	2,090	998	810	1,890	3,320	3,940	2,880	4,570	2,190		
22	157	372	1,500	1,860	1,040	810	1,940	3,320	4,430	3,180	4,590	2,180		
23	157	292	1,810	1,640	1,130	785	1,920	3,420	4,420	3,180	4,600	2,090		
24	155	250	2,010	1,690	1,200	770	1,940	3,420	4,280	3,160	4,600	2,090		
25	154	222	2,020	1,650	1,170	785	1,920	3,410	4,310	3,040	4,490	2,090		
26	167	196	2,040	1,720	1,150	790	1,980	3,240	4,430	3,040	3,830	2,090		
27	188	200	2,340	1,760	1,120	815	2,040	3,250	3,510	3,030	3,790	2,090		
28	231	221	2,450	1,780	1,070	820	2,040	3,250	2,670	3,030	3,780	2,090		
29	238	378	2,500	1,380	- - - - -	820	2,080	3,270	2,680	3,030	3,410	2,490		
30	235	428	2,510	1,309	- - - - -	820	2,170	3,270	2,730	3,030	3,050	2,290		
31	235	- - - - -	2,680	1,280	- - - - -	840	- - - - -	3,280	- - - - -	3,030	3,070	- - - - -		
Total	6,988	7,171	40,296	72,480	19,469	27,977	40,391	92,990	99,070	90,020	118,550	73,150		
Mean	225	239	1,301	2,338	695	902	1,346	3,000	3,302	2,904	3,824	2,438		
Max	321	444	4,600	3,310	1,200	1,070	2,170	3,420	4,430	3,180	4,600	2,990		
Min	154	185	359	1,280	440	770	802	2,270	2,450	2,110	3,030	2,090		
Ac-ft	13,860	14,320	79,930	143,800	38,620	55,490	80,110	184,400	196,500	178,600	235,100	145,100		
Cal yr 1966; Total	247,732		Mean	679		Max	4,600		Min	154		Ac-ft	491,400	
Wtr yr 1967; Total	688,552		Mean	1,886		Max	4,600		Min	154		Ac-ft	1,366,000	

11-1940. KERN RIVER NEAR BAKERSFIELD, CALIF.

LOCATION.--Lat 35°25'54", long 118°56'43", in NW¼SW¼ sec.2, T.29 S., R.28 E., on left bank 1.9 miles upstream from Sacramento Gulch, 0.8 mile northeast of Oil City, and 5.8 miles northeast of Bakersfield Post Office.

DRAINAGE AREA.--2,407 sq mi.

RECORDS AVAILABLE.--October 1893 to September 1967. Daily discharges for period October 1953 to September 1963 are in files of California District office of Geological Survey. Monthly discharge only for some periods, published in WSP 1315-A.

GAGE.--Graphic water-stage recorder and wooden control. Datum of gage is at mean sea level.

AVERAGE DISCHARGE.--74 years, 1,935 cfs (676,900 acre-ft per year).

EXTREMES.--Maximum discharge during year, 9,290 cfs Dec. 7 (elevation, 454.94 ft); minimum daily, 188 cfs Oct. 21.

1893-1954 (prior to regulation by Isabella Reservoir): Maximum discharge, 36,000 cfs Nov. 19, 1950 (elevation, 461.37 ft); minimum daily, 74 cfs Sept. 19, 1948.

1955-67: Maximum discharge, 9,290 cfs Dec. 6, 1966 (elevation, 454.94 ft); minimum daily, 103 cfs Oct. 9, 1961.

REMARKS.--Flow regulated by Isabella Reservoir beginning in 1954 (see sta. no. 1905), and three powerplants; many diversions above station for irrigation.

COOPERATION.--Records furnished by Kern County Land Company.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	330	251	440	2,730	529	1,120	910	2,280	3,350	2,980	3,090	3,040
2	306	243	408	2,760	500	1,130	897	2,350	3,280	2,910	3,150	2,930
3	320	211	427	2,890	475	1,090	886	2,440	3,200	2,940	3,260	2,840
4	324	224	476	3,290	485	1,040	845	2,470	3,230	2,150	3,300	2,840
5	285	227	951	3,290	500	1,030	844	2,500	3,260	2,350	3,460	2,370
6	281	227	4,790	3,280	475	1,060	853	2,610	3,260	2,920	3,460	2,900
7	277	224	1,150	3,300	462	1,050	851	2,740	3,280	3,040	3,410	2,890
8	244	249	663	3,330	462	1,060	850	2,880	3,300	3,050	3,440	2,830
9	237	247	503	3,160	462	1,050	845	3,210	3,160	2,990	3,410	2,790
10	242	216	487	2,700	462	1,020	875	3,070	2,920	2,940	3,830	2,770
11	235	217	494	2,640	462	1,010	899	3,240	2,950	3,000	4,010	2,650
12	263	222	493	2,580	462	1,010	881	3,190	2,880	3,010	3,910	2,460
13	284	222	501	2,530	462	1,010	911	3,160	2,660	3,030	4,170	2,400
14	273	212	566	2,420	462	977	1,040	3,130	2,540	3,030	4,280	2,320
15	232	209	585	2,370	462	1,030	1,160	3,100	2,510	2,980	4,240	2,230
16	236	210	585	2,370	464	1,010	1,250	3,170	2,750	2,930	4,300	2,220
17	225	223	600	2,380	649	913	1,340	3,230	3,870	2,920	4,490	2,220
18	220	226	1,280	2,370	912	850	1,590	3,160	3,760	3,040	4,540	2,230
19	208	232	1,290	2,220	950	828	1,780	3,140	3,760	3,040	4,580	2,220
20	185	243	1,280	2,150	1,000	818	1,820	3,440	3,850	2,560	4,580	2,220
21	168	469	1,340	2,150	1,050	830	1,930	3,410	4,130	3,360	4,580	2,220
22	172	392	1,560	1,960	1,100	833	1,950	3,460	4,540	3,340	4,630	2,190
23	177	309	1,820	1,730	1,190	819	1,960	3,510	4,460	3,320	4,680	2,150
24	178	279	2,080	1,780	1,260	784	1,960	3,530	4,360	3,210	4,690	2,120
25	171	245	2,030	1,740	1,230	793	1,990	3,440	4,440	3,100	4,350	2,130
26	173	241	2,150	1,790	1,210	775	2,050	3,310	4,530	3,100	3,850	2,130
27	184	223	2,380	1,790	1,180	827	2,100	3,320	2,880	3,100	3,900	2,110
28	237	233	2,540	1,810	1,130	834	2,090	3,340	2,610	3,090	3,840	2,210
29	255	345	2,490	1,460	- - - -	862	2,130	3,350	2,680	3,090	3,370	2,410
30	254	425	2,450	1,370	- - - -	849	2,220	3,350	2,820	3,080	3,100	2,290
31	255	- - - -	2,710	1,350	- - - -	884	- - - -	3,370	- - - -	3,070	3,180	- - - -
Total	7,431	7,696	41,574	73,690	20,446	29,196	41,707	95,900	101,220	92,570	121,080	73,830
Mean	240	257	1,341	2,377	730	942	1,390	3,094	3,374	2,986	3,906	2,461
Max	330	469	4,790	3,330	1,260	1,130	2,220	3,530	4,540	3,360	4,690	3,040
Min	168	209	408	1,350	462	775	844	2,280	2,510	2,150	3,090	2,110
Ac-ft	14,740	15,260	82,460	146,200	40,550	57,910	82,720	190,200	200,800	183,600	240,200	146,400

Cal yr 1966: Total 254,335 Mean 697 Max 4,790 Min 168 Ac-ft 504,000
Wtr yr 1967: Total 706,340 Mean 1,935 Max 4,790 Min 168 Ac-ft 1,401,000

BUENA VISTA LAKE BASIN

11-1942. WAGONWHEEL CREEK NEAR REWARD, CALIF.

LOCATION.--Lat 35°19'25", long 119°44'30", in SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.8, T.30 S., R.21 E., at culvert on private road 3.5 miles west of Reward.

DRAINAGE AREA.--1.38 sq mi.

RECORDS AVAILABLE.--Water years 1958-65 (annual maximum), October 1965 to September 1967.

GAGE.--Graphic water-stage recorder, crest-stage gage, and tipping-bucket rain gage. Altitude of gage is 1,500 ft (from topographic map).

EXTREMES.--Maximum discharge during year, 17 cfs Dec. 6 (gage height, 7.66 ft), from rating curve based on computation of flow through culvert as explained below; no flow most of year.
1959-67: Maximum discharge, 306 cfs Aug. 14, 1965 (gage height, 13.44 ft from floodmarks), from rating curve based on computation of flow through culvert at gage heights 6.97, 9.05, 9.55, 9.92 ft, and on computation of flow through culvert plus flow over road at gage height 13.44 ft; no flow for several months of each year.

REMARKS.--Records poor. No regulation or diversion above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Dec. 6..... 1.6
Jan. 24..... .10

Month	Cfs-days	Maximum	Minimum	Mean	Acre-feet
December 1966	1.6	1.6	0	0.05	3.2
January 1967	.10	.10	0	.003	.2
Calendar year 1966	4.1	1.8	0	.01	8.1
Water year 1966-67	1.7	1.6	0	.005	3.4

Note.--Flow occurred only on days listed above.

Monthly precipitation, in inches, is as follows: November, 0.8; December, 2.7; January, 1.3; February, 0.2; March, 1.3; April, 4.2; May, 0.4; June, 0.4; September, 0.2; the water year, 11.5.

11-1955. SAN EMIGDIO CREEK AT SAN EMIGDIO RANCHHOUSE, CALIF.

LOCATION.--Lat 34°58'54", long 119°11'03", in San Emigdio Grant, on left bank 50 ft downstream from unnamed tributary 0.8 mile upstream from San Emigdio ranchhouse headquarters, and 13 miles west of Wheeler Ridge.

DRAINAGE AREA.--48.8 sq mi.

RECORDS AVAILABLE.--March 1959 to September 1967.

GAGE.--Graphic water-stage recorder and broad-crested weir with rectangular flume for flows below 15 cfs. Datum of gage is 1,617.57 ft above mean sea level.

AVERAGE DISCHARGE.--8 years, 1.05 cfs (760 acre-ft per year).

EXTREMES.--Maximum discharge during year, 28 cfs Dec. 6 (gage height, 9.90 ft from floodmarks); minimum daily, 0.60 cfs July 24, 30.

1959-67: Maximum discharge, 6,690 cfs Aug. 5, 1961 (gage height, 19.87 ft from floodmarks), from rating curve extended above 20 cfs on basis of slope-area measurements at gage height 10.94 and 19.87 ft; minimum daily, 0.30 cfs Apr. 23, 24, 1962 and many days in 1965, 1966.

Maximum stage known since at least 1938 (from information by local residents), that of Aug. 5, 1961.

REMARKS.--Records good except those for period of no gage-height record, which are poor. Small diversions for stock and domestic use above station.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.90	1.3	1.4	1.6	1.3	1.0	1.0	1.3	1.0	0.70	0.70	1.1
2	.90	1.3	1.5	1.5	1.4	1.0	.90	1.2	1.0	.70	.70	1.1
3	.90	1.3	3.3	1.5	1.3	1.0	.90	1.2	1.0	.70	.70	1.1
4	.90	1.3	1.9	1.5	1.2	1.2	1.2	1.2	1.0	.70	.70	1.0
5	.90	1.3	3.3	1.5	1.2	1.0	1.0	1.1	1.0	.70	.70	1.0
6	.80	1.3	7.6	1.5	1.2	1.0	.90	1.1	.90	.80	.70	1.0
7	.80	1.6	1.4	1.5	1.2	1.0	1.2	1.0	.90	.80	.70	1.0
8	.90	1.3	1.4	1.5	1.2	1.0	1.4	.90	.90	.70	.80	.90
9	.80	1.2	1.4	1.5	1.2	.90	1.2	1.2	.90	.80	1.0	.90
10	.90	1.2	1.5	1.5	1.2	.90	1.2	1.4	1.1	.80	1.0	.90
11	1.0	1.2	1.6	1.5	1.2	.90	1.4	1.2	1.1	.70	.90	.90
12	1.1	1.3	1.6	1.5	1.1	.90	1.4	1.2	1.0	.80	.90	.80
13	1.2	1.3	1.6	1.5	1.1	.90	1.3	1.1	1.0	.70	.90	.80
14	1.1	1.3	1.6	1.5	1.3	1.0	1.3	1.1	1.0	.70	3.9	.80
15	1.1	1.3	1.6	1.5	1.2	1.0	1.3	1.1	.90	.70	1.4	.90
16	1.1	1.3	1.6	1.5	1.2	.90	1.3	1.2	.90	.80	.90	.90
17	1.1	1.3	1.6	1.5	1.2	.90	1.2	1.4	.80	.70	.90	.90
18	1.1	1.3	1.6	1.4	1.2	.90	1.4	1.2	.80	.70	.90	.90
19	1.0	1.3	1.6	1.4	1.2	.90	1.4	1.2	.80	.70	.90	1.2
20	1.1	1.4	1.6	1.4	1.2	.90	1.4	1.2	.80	.70	.90	1.1
21	1.2	1.4	1.6	1.4	1.2	.80	1.3	1.2	.80	.70	.90	.90
22	1.2	1.5	1.6	1.4	1.1	.80	1.3	1.2	.80	.70	1.0	.90
23	1.2	1.5	1.6	1.4	1.2	.80	1.2	1.1	.80	.70	1.2	1.0
24	1.1	1.4	1.6	1.4	1.1	.80	1.4	1.1	.80	.60	1.4	1.0
25	1.1	1.4	1.6	1.4	1.1	.80	1.2	1.1	.80	.70	1.4	1.0
26	1.2	1.4	1.6	1.4	1.1	.80	1.2	1.1	.80	.70	1.3	1.0
27	1.3	1.4	1.6	1.4	1.1	.80	1.2	1.1	.80	.70	1.3	.90
28	1.3	1.4	1.6	1.3	1.0	.80	1.4	1.0	.80	.70	1.2	.90
29	1.3	1.4	1.6	1.3	-----	1.1	1.4	1.0	.70	.70	1.2	1.1
30	1.3	1.4	1.6	1.4	-----	.90	1.4	1.0	.70	.60	1.2	1.1
31	1.3	-----	1.6	1.3	-----	1.0	-----	1.0	-----	.70	1.1	-----
Total	33.00	40.3	58.3	44.9	33.2	28.60	37.30	35.40	26.60	22.10	33.40	29.00
Mean	1.06	1.34	1.88	1.45	1.19	0.92	1.24	1.14	0.89	0.71	1.08	0.97
Max	1.3	1.6	7.6	1.6	1.4	1.2	1.4	1.4	1.1	0.80	3.9	1.2
Min	0.80	1.2	1.4	1.3	1.0	0.80	0.90	0.90	0.70	0.60	0.70	0.80
Ac-ft	65	80	116	89	66	57	74	70	53	44	66	58

Cal yr 1966: Total 339.40 Mean 0.93 Max 7.6 Min 0.50 Ac-ft 673

Wtr yr 1967: Total 422.10 Mean 1.16 Max 7.6 Min 0.60 Ac-ft 837

Peak discharge (base, 25 cfs).--Dec. 6 (time unknown) 28 cfs (9.90 ft.); Aug. 14 (time unknown) 25 cfs (9.80 ft.).

BUENA VISTA LAKE BASIN

11-1956. PASTORIA CREEK NEAR LEBEC, CALIF.

LOCATION.--Lat 34°54'35", long 118°48'55", in Los Alamos Y Agua Caliente Grant, on right bank just upstream from unnamed tributary and 5.8 miles northeast of Lebec.

DRAINAGE AREA.--27.5 sq mi.

RECORDS AVAILABLE.--October 1964 to September 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is 1,970.93 ft above mean sea level, unadjusted. Digital water-stage recorder Apr. 20 to Dec. 20, 1966.

EXTREMES.--Maximum discharge during year, 13 cfs Nov. 7 (gage height, 1.68 ft), from rating curve extended above 3.6 cfs as explained below; no flow for many days.

1964-67: Maximum discharge, 13 cfs Nov. 7, 1966 (gage height, 1.68 ft), from rating curve extended above 3.6 cfs on basis of slope-area measurement of maximum flow; no flow for many days in each year.

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

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0		0	0.30	0.10	0.50	0.70	0.70	0.30	0.20	0.40
2		0	0	0	.30	.10	.70	.70	.80	.30	.20	.30
3		0	0	0	.30	.10	.30	.70	.50	.30	.20	.40
4		0	0	0	.30	.10	1.4	.70	.50	.30	.20	.40
5		0	0	0	.30	.10	2.5	.70	.60	.30	.50	.40
6		0	2.3	0	.30	.10	1.1	.70	1.3	.30	.40	.40
7		3.2	5.2	0	.30	.20	1.5	.70	.60	.20	.40	.40
8		.10	.20	0	.30	.20	2.7	.70	.50	.20	.40	.40
9		0	0	0	.30	.20	2.0	.70	.40	.20	.50	.40
10		0	0	0	.30	.20	1.5	.70	.40	.20	.70	.40
11		0	0	0	.30	.10	3.3	.70	.40	.20	.40	.40
12		0	0	0	.30	.10	3.3	.70	.40	.10	.40	.40
13		0	0	0	.30	.10	2.5	.70	.40	.10	.30	.40
14		0	0	0	.50	.20	2.2	.70	.40	.10	.30	.40
15		0	0	0	.50	.10	2.5	.70	.40	.10	.40	.50
16		0	0	.10	.50	.10	2.5	.70	.40	.10	.40	.50
17		0	0	.10	.30	.10	2.2	.70	.40	.10	.40	.50
18		0	0	.10	.20	.20	2.2	.70	.40	.20	.40	.90
19		0	0	.10	.20	.20	2.2	.70	.40	.20	.40	.50
20		0	0	.10	.20	.20	2.2	.80	.40	.20	.30	.40
21		0	0	.10	.20	.20	2.0	.80	.40	.20	.30	.50
22		0	0	1.3	.20	.20	2.5	.80	.40	.20	.40	.50
23		0	0	.50	.20	.20	2.2	.70	.30	.20	.40	.50
24		0	0	.20	.10	.20	3.9	.60	.30	.20	.40	.50
25		0	0	.20	.10	.20	.80	.80	.30	.20	.40	.50
26		0	0	.20	.10	.20	.70	.70	.30	.20	.40	.60
27		0	0	.20	.10	.20	.70	.70	.30	.20	.40	.50
28		0	0	.20	.10	.20	.70	.70	.30	.20	.40	.50
29		0	.0	.20	-----	.40	.70	.80	.40	.20	.50	.50
30		0	0	.20	-----	.20	.70	.80	.30	.20	.50	.50
31		-----	0	.20	-----	.50	-----	.80	-----	.20	.40	-----
Total	0	3.30	7.70	4.00	7.40	5.50	54.20	22.30	13.60	6.20	11.90	13.90
Mean	0	0.11	0.25	0.13	0.26	0.18	1.81	0.72	0.45	0.20	0.38	0.46
Max	0	3.2	5.2	1.3	0.50	0.50	3.9	0.80	1.3	0.30	0.70	0.90
Min	0	0	0	0	0.10	0.10	0.30	0.60	0.30	0.10	0.20	0.30
Ac-ft	0	6.5	15	7.9	15	11	103	44	27	12	24	28

Cal yr 1966: Total 109.80 Mean 0.30 Max 5.2 Min 0 Ac-ft 218

Wtr yr 1967: Total 150.00 Mean 0.41 Max 5.2 Min 0 Ac-ft 298

Peak discharge (base, 10 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-07	1545	1.68	13	4-04	1900	1.61	11
12-06	1830	1.60	10	4-24	1930	1.65	12

BUENA VISTA LAKE BASIN

565

11-1964. CALIENTE CREEK ABOVE TEHACHAPI CREEK, NEAR CALIENTE, CALIF.

LOCATION.--Lat 35°18'40", long 118°34'10", in SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.17, T.30 S., R.32 E., on right bank 0.5 mile upstream from Harper Canyon, 1.0 mile upstream from Oiler Canyon, and 3.6 miles northeast of Caliente.

DRAINAGE AREA.--165 sq mi.

RECORDS AVAILABLE.--October 1961 to September 1967.

GAGE.--Graphic water-stage recorder and concrete control. Altitude of gage is 1,575 ft (from topographic map).

AVERAGE DISCHARGE.--6 years, 1.45 cfs (1,050 acre-ft per year).

EXTREMES.--Maximum discharge during year, 1,140 cfs Dec. 6 (gage height, 6.90 ft, from floodmarks), from rating curve extended above 61 cfs on basis of slope-area measurement at gage height 7.48 ft; no flow for several months.

1961-67: Maximum discharge, 1,410 cfs Aug. 8, 1963 (gage height, 7.48 ft, from floodmarks), from rating curve extended above 51 cfs on basis of slope-area measurement of maximum flow; no flow for several months each year.

REMARKS.--Records good. Small diversions above station for stock and domestic use.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	1.2	2.7	1.0	4.0	6.9	2.2	0.50	0.10	
2			0	1.4	2.6	1.2	4.0	5.7	2.2	.40	.10	
3			0	1.4	2.6	1.2	4.0	5.1	2.2	.40	.10	
4			0	1.4	2.4	1.0	3.0	4.5	2.0	.30	.20	
5			.90	2.9	2.4	1.4	3.4	5.1	1.7	.40	.20	
6			196	3.2	2.3	1.2	2.2	4.5	2.6	.50	.20	
7			84	2.6	2.3	1.2	4.0	4.0	2.6	.50	.20	
8			22	2.4	2.2	1.0	4.0	3.4	2.2	.50	.30	
9			14	2.3	2.0	1.0	3.0	5.1	1.7	.60	.40	
10			14	2.2	2.0	1.2	3.4	8.3	1.7	.60	.30	
11			9.9	2.3	1.8	1.2	5.7	5.1	1.5	.60	.30	
12			7.6	2.3	1.8	1.2	6.3	5.1	1.4	1.5	.20	
13			4.9	2.2	1.8	1.2	5.7	5.1	1.5	1.7	.10	
14			2.6	2.0	1.8	1.5	6.3	4.0	1.4	.40	.10	
15			1.5	2.0	1.7	1.5	7.6	4.0	1.2	1.0	.20	
16			1.5	2.0	1.7	1.0	7.6	3.4	1.2	3.4	.10	
17			1.5	1.8	1.6	1.2	7.6	3.4	1.4	1.2	.10	
18			1.5	1.7	1.5	1.2	7.6	3.0	1.2	.80	.10	
19			1.5	1.7	1.4	1.4	8.3	3.0	1.2	.30	.10	
20			1.6	1.7	1.4	1.2	8.3	2.6	1.0	.20	.10	
21			1.6	1.9	1.3	1.0	8.3	2.6	1.0	.10	.10	
22			1.2	2.2	1.2	.80	12	2.6	.80	.10	0	
23			1.3	2.4	1.2	1.0	11	2.6	1.0	.10	0	
24			1.5	3.0	1.1	1.0	12	2.6	.80	.10	0	
25			1.3	4.3	1.0	1.0	10	2.2	.70	.10	0	
26			1.3	3.5	1.0	1.0	9.0	2.6	.70	.10	0	
27			1.2	3.2	1.0	.80	7.6	2.6	.70	.10	0	
28			1.5	2.9	1.0	1.0	6.9	2.6	.60	.10	0	
29			1.5	2.9	---	4.5	9.0	2.6	.60	.10	0	
30			1.4	2.9	---	2.2	8.3	2.6	.50	.10	0	
31		---	1.2	2.9	---	4.0	---	2.6	---	.10	0	---
Total	0	0	380.0	72.8	48.8	42.3	200.1	119.5	41.50	16.90	3.60	0
Mean	0	0	12.3	2.35	1.74	1.36	6.67	3.85	1.38	0.55	0.12	0
Max	0	0	196	4.3	2.7	4.5	12	8.3	2.6	3.4	0.40	0
Min	0	0	0	1.2	1.0	0.80	2.2	2.2	0.50	0.10	0	0
Ac-ft	0	0	754	144	97	84	397	237	82	34	7.1	0

Cal yr 1966: Total 459.20 Mean 1.26 Max 196 Min 0 Ac-ft 911
 Wtr yr 1967: Total 925.50 Mean 2.54 Max 196 Min 0 Ac-ft 1,840

Peak discharge (base, 50 cfs).--Dec. 6 (2000) 1,140 cfs (6.90 ft).

BUENA VISTA LAKE BASIN

11-1964.2. TEHACHAPI CREEK NEAR TEHACHAPI, CALIF.

LOCATION.--Lat 35°10'25", long 118°28'45", in NE¼SW¼ sec.6, T.32 S., R.33 E., on right bank 1.3 miles downstream from Brite Creek and 3.2 miles northwest of Tehachapi.

DRAINAGE AREA.--53.2 sq mi.

RECORDS AVAILABLE.--September 1962 to September 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is 3,534.48 ft above mean sea level. Prior to Aug. 5, 1964, at site 0.2 mile upstream at different datum.

AVERAGE DISCHARGE.--5 years, 0.06 cfs (43 acre-ft per year).

EXTREMES.--Maximum discharge during year, 52 cfs Dec. 6 (gage height, 1.06 ft), from rating curve based on five flow over weir computations; no flow for most of year.

1962-67: Maximum discharge, 1,700 cfs Aug. 8, 1963 (gage heights, 5.30 ft in gage well, 6.40 ft, from floodmarks, site and datum then in use), from slope-area measurement of maximum flow; no flow for all or part of most years.

REVISIONS.--The maximum discharge for the water year 1966 has been revised to 12 cfs Mar. 2, 1966 (gage height, 0.71 ft).

REMARKS.--Records good. No regulation.

REVISIONS.--Revised figures of discharge in cubic feet per second, for the water year 1966, superceding those published in Surface Water Records of California, 1966 Vol. 2, are given herewith:

Mar. 2, 1966..... 0.70
4..... .10
5..... .10

Month	Cfs-days	Maximum	Minimum	Mean	Runoff in acre-ft
March 1966	0.90	0.70	0	0.03	1.8
Water year 1966	0.90	0.70	0	0.002	1.8

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	0								
2			0	0								
3			0	.10								
4			0	0								
5			.10	0								
6			3.2	0								
7			.50	0								
8			0	0								
9			0	0								
10			0	0								
11			0	0								
12			0	0								
13			0	0								
14			0	0								
15			0	0								
16			0	0								
17			0	0								
18			0	0								
19			0	0								
20			0	0								
21			0	0								
22			0	.20								
23			0	.10								
24			0	.10								
25			0	.20								
26			0	0								
27			0	0								
28			0	0								
29			0	0								
30			0	0								
31			0	0								
Total	0	0	3.80	0.70	0	0	0	0	0	0	0	0
Mean	0	0	0.28	0.02	0	0	0	0	0	0	0	0
Max	0	0	3.2	0.20	0	0	0	0	0	0	0	0
Min	0	0	0	0	0	0	0	0	0	0	0	0
Ac-ft	0	0	1.7	1.4	0	0	0	0	0	0	0	0

Cal yr 1966: Total 3.80 Mean 0.02 Max 3.2 Min 0 Ac-ft 1.7

Wtr yr 1967: Total 9.50 Mean 0.03 Max 3.2 Min 0 Ac-ft 1.9

Peak discharge (base, 10 cfs).--Dec. 6 (1830) 52 cfs (1.06 ft).

11-1972.5. AVENAL CREEK NEAR AVENAL, CALIF.

LOCATION.--Lat 35°51'15", long 120°07'35", in NW¼ sec.10, T.24 S., R.17 E., on right bank 550 ft downstream from road ford, 0.4 mile downstream from unnamed tributary, and 10 miles south of Avenal.

DRAINAGE AREA.--57.1 sq mi.

RECORDS AVAILABLE.--October 1961 to September 1967.

GAGE.--Graphic water-stage recorder and crest-stage gages. Altitude of gage is 825 ft (from topographic map).

AVERAGE DISCHARGE.--6 years, 1.73 cfs (1,250 acre-ft per year).

EXTREMES.--Maximum discharge during year, 1,540 cfs Dec. 6 (gage height, 5.72 ft in gage well, 7.5 ft from flood-marks), from rating curve extended above 90 cfs as explained below; no flow for several months.

1961-67: Maximum discharge, 1,540 cfs Dec. 6, 1966 (gage height, 5.72 ft in gage well, 7.5 ft from flood-marks), from rating curve extended above 90 cfs on basis of slope-area measurement of maximum flow; no flow for several months each year.

REMARKS.--Records good. Minor diversions for stock above station.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	0	12	0.70	5.7	10	2.2	0.10		0
2			0	0	3.9	.50	4.6	8.2	2.2	.10		0
3			0	0	6.9	.70	4.2	7.7	1.5	.10		0
4			0	0	5.5	.80	7.2	6.9	1.5	.10		0
5			2.0	0	4.4	.80	12	6.1	1.5	.10		0
6			450	0	3.8	.70	8.6	5.7	1.5	.20		0
7			55	0	3.2	.40	62	4.9	1.5	.20		0
8			14	0	2.4	.40	25	4.2	1.3	.30		0
9			8.0	0	2.2	.30	17	4.2	1.3	.40		0
10			4.0	0	1.9	.50	13	4.2	1.5	.40		0
11			2.0	0	1.7	11	20	4.2	1.5	.30		0
12			1.0	0	1.2	37	17	3.9	1.5	.20		0
13			.40	0	1.0	26	12	3.6	1.8	.20		0
14			.20	0	.80	23	9.2	3.3	1.5	.20		0
15			.20	0	.80	12	12	3.0	1.0	.20		0
16			.10	0	1.0	58	11	2.5	1.2	.10		0
17			0	0	1.2	29	8.7	2.2	.80	.10		0
18			0	0	1.2	19	48	2.0	.70	.10		0
19			0	0	1.0	13	41	1.8	.60	.10		0
20			0	0	.80	9.2	29	2.0	.60	.10		0
21			0	0	.80	6.9	56	2.0	.60	.10		0
22			0	0	.80	5.7	42	2.0	.80	.10		.30
23			0	0	1.0	4.2	36	1.8	.70	0		.30
24			0	52	1.0	3.6	43	1.3	.60	0		.20
25			0	24	1.9	3.3	30	1.5	.50	0		.10
26			0	8.4	1.7	3.0	23	1.8	.20	0		.10
27			0	4.8	1.0	2.8	20	1.5	.20	0		.10
28			0	3.5	.80	2.2	17	1.8	.20	0		.10
29			0	2.7	---	2.2	16	2.2	.20	0		.10
30			0	26	---	2.0	13	2.2	.10	0		.10
31		-----	0	25	---	11	---	1.8	---	0		---
Total	0	0	536.90	146.4	70.90	289.90	663.2	110.5	31.30	3.80	0	1.40
Mean	0	0	17.3	4.72	2.53	9.35	22.1	3.56	1.04	0.12	0	0.05
Max	0	0	450	52	12	58	62	10	2.2	0.40	0	0.30
Min	0	0	0	0	0.80	0.30	4.2	1.3	0.10	0	0	0
Ac-ft	0	0	1,060	290	141	575	1,320	219	62	7.5	0	2.8

Cal yr 1966 Total 606.90 Mean 1.66 Max 450 Min 0 Ac-ft 1,200
Wtr yr 1967 Total 1,854.30 Mean 5.08 Max 450 Min 0 Ac-ft 3,680

Peak discharge (base, 30 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-06	1000	5.72	1,540	3-16	1400	2.73	161
1-24	1200	3.19	253	4-07	0200	2.48	115
1-30	1600	2.35	92	4-18	1000	2.43	106
3-12	0500	2.19	65	4-21	1200	2.37	96

TULARE LAKE BASIN

11-1978. POSO CREEK NEAR OILDALE, CALIF.

LOCATION.--Lat 35°30'50", long 118°54'15", in SW¼SW¼ sec.6, T.28 S., R.29 E., on downstream side of highway bridge opposite mouth of Hillvale Canyon, 10 miles northeast of Oildale, and 12 miles northeast of Bakersfield.

DRAINAGE AREA.--230 sq mi.

RECORDS AVAILABLE.--July 1959 to September 1967.

GAGE.--Digital water-stage recorder. Altitude of gage is 700 ft (from topographic map). Prior to Oct. 10, 1962, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--8 years, 17.0 cfs (12,310 acre-ft per year).

EXTREMES.--Maximum discharge during year, 4,300 cfs Dec. 6 (gage height, 11.57 ft), from rating curve extended above 300 cfs on basis of contracted opening measurement of maximum flow; minimum daily, 1.7 cfs Sept. 28, 1959-67; Maximum discharge, that of Dec. 6, 1966; minimum, 0.9 cfs July 26, 1961.
Flood of Apr. 4, 1958, reached a stage of 8.6 ft, from floodmarks (discharge, 2,750 cfs, furnished by Kern County Land Co.).

REMARKS.--Records fair except those for period of no gage-height record, which are poor. Oilfield waste comprises most of low flow.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	3.0	3.6	4.0	27	55	21	40	170	62	12	3.3	2.3
2	2.9	3.4	4.0	27	45	20	40	147	57	11	3.7	2.8
3	2.6	3.3	4.3	27	40	20	34	137	54	9.9	4.1	2.6
4	2.8	3.4	12	28	36	20	33	137	52	8.9	4.1	2.8
5	3.1	3.4	547	27	33	20	46	143	54	8.5	4.1	3.2
6	3.2	3.4	2,130	27	29	19	53	141	55	7.7	4.4	3.2
7	3.2	2.8	750	27	28	18	56	138	54	7.6	4.2	3.0
8	3.2	3.3	200	26	27	19	99	148	52	6.7	3.9	2.8
9	3.2	4.2	120	25	26	18	100	174	49	6.2	4.1	2.5
10	3.0	4.0	76	25	26	17	88	317	46	5.2	3.7	2.3
11	2.9	4.0	56	25	26	18	106	312	44	4.7	3.9	2.6
12	3.2	4.0	42	25	24	18	144	229	41	4.2	4.1	2.8
13	2.9	3.8	37	25	24	22	133	187	40	4.0	4.1	3.0
14	3.2	3.7	33	25	25	32	174	160	39	3.9	4.1	3.1
15	3.3	3.9	33	25	26	39	167	144	38	4.1	4.1	3.2
16	3.3	3.8	31	25	25	33	172	139	34	4.2	3.9	3.2
17	3.3	3.9	30	25	25	35	151	137	30	4.0	3.9	3.3
18	3.4	3.8	29	25	24	39	140	139	26	3.9	3.9	3.4
19	3.3	3.9	29	25	23	35	220	136	25	3.8	3.5	3.4
20	3.4	2.7	29	25	22	31	228	129	26	3.9	3.9	3.4
21	3.5	3.6	29	26	21	27	255	120	24	3.9	3.7	3.2
22	3.5	3.8	28	50	21	25	311	110	23	3.7	3.7	3.1
23	3.5	3.9	28	80	21	23	353	104	22	3.6	3.3	2.8
24	3.5	4.0	28	60	21	23	365	97	20	3.5	3.5	2.7
25	3.3	4.0	28	85	20	23	368	88	17	3.4	3.5	2.6
26	3.3	4.0	29	61	23	22	300	81	16	3.2	3.5	2.5
27	2.9	4.0	29	43	22	21	273	76	15	3.3	3.3	2.2
28	3.8	4.0	28	38	21	20	240	69	14	3.3	3.2	1.7
29	4.0	4.0	28	33	-----	23	232	68	13	3.5	3.0	2.0
30	3.8	4.0	29	34	-----	32	213	66	13	3.5	3.0	3.2
31	3.5	-----	28	58	-----	33	-----	63	-----	3.3	3.0	-----
TOTAL	101.0	111.6	4,547.0	1,084	759	766	5,134	4,306	1,055	162.6	115.7	84.9
MEAN	3.26	3.72	147	35.0	27.1	24.7	171	139	35.2	5.25	3.73	2.83
MAX	4.0	4.2	2,130	85	55	39	368	317	62	12	4.4	3.4
MIN	2.6	2.7	4.0	25	20	17	33	63	13	3.2	3.0	1.7
AC-FT	200	221	9,020	2,150	1,510	1,520	10,180	8,540	2,090	323	229	168

CAL YR 1966: TOTAL 7,658.2 MEAN 21.0 MAX 2,130 MIN 2.2 AC-FT 15,190
WAT YR 1967: TOTAL 18,226.8 MEAN 49.9 MAX 2,130 MIN 1.7 AC-FT 36,150

Peak discharge (base, 70 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-6	----	11.57	4,300	4-25	0730	6.80	410
1-25	1600	4.27	90	5-10	1915	6.80	410
4-14	1300	5.39	174				

Note.--No gage-height record Nov. 24 to Dec. 10.

TULARE LAKE BASIN

569

11-2020. NORTH FORK OF MIDDLE FORK TULE RIVER NEAR SPRINGVILLE, CALIF.

LOCATION.--Lat 36°10'29", long 118°41'41", in T.20 S., R.30 E. (unsurveyed), on right bank 1.2 miles upstream from mouth, 2.2 miles downstream from Hossack Creek, and 7.4 miles northeast of Springville.

DRAINAGE AREA.--39.3 sq mi.

RECORDS AVAILABLE.--October 1939 to September 1967. Monthly discharge only for some periods, published in WSP 1315-A. January 1909 to December 1912 at site 2 miles upstream, records not equivalent. Prior to October 1954, records for river and conduit published separately; combined only, October 1954 to September 1962.

GAGE.--Digital water-stage recorder and, since Aug. 6, 1958, concrete control on river; digital water-stage recorder and rectangular concrete channel for conduit diversion. Altitude of gage is 2,920 ft (from topographic map). Prior to Nov. 23, 1965, graphic water-stage recorder at river and conduit at same sites and datums.

AVERAGE DISCHARGE (river only).--28 years, 25.9 cfs (18,750 acre-ft per year).
(total flow).--28 years, 57.0 cfs (41,270 acre-ft per year).

EXTREMES (river only).--Maximum discharge during year, 16,900 cfs Dec. 6 (gage height, 13.83 ft, from floodmarks), from rating curve extended above 270 cfs as explained below; minimum daily, 0.40 cfs Oct. 5, 6.

1939-67: Maximum discharge, 16,900 cfs Dec. 6, 1966 (gage height, 13.83 ft, from floodmarks), from rating curve extended above 270 cfs on basis of critical-depth determinations at gage heights 9.67 and 12.47 ft; no flow Sept. 10, 11, 1955.

(combined).--Maximum discharge during year, 16,900 cfs Dec. 6; minimum daily, 11 cfs Oct. 11.

1939-67: Maximum discharge, 16,900 cfs Dec. 6, 1966; minimum daily, 7.2 cfs Aug. 18, Oct. 17, 1961.

REMARKS.--Records good. Pacific Gas and Electric Co. conduit diverts 2.5 miles upstream from station; water is returned to North Fork of Middle Fork Tule River 1.1 miles downstream from station. For records of combined discharge of river and conduit, see following page.

COOPERATION.--Gage-height record and 19 discharge measurements for the river and gage-height record and nine discharge measurements for the conduit furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	.50	.80	1.1	45	100	62	119	32	233	158	8.9	8.6
2	.50	1.0	45	44	86	62	118	33	192	146	8.9	8.6
3	.60	1.0	126	43	81	62	105	39	152	131	8.9	8.3
4	.60	1.0	11	43	78	63	103	44	141	124	8.9	8.3
5	.40	.70	3,760	43	78	62	100	41	143	110	8.9	8.3
6	.40	.90	13,300	42	79	61	88	46	138	94	8.6	8.6
7	.50	1.1	3,450	41	81	60	99	66	148	84	8.9	8.6
8	.50	6.7	784	40	81	58	92	118	156	71	8.6	8.0
9	.60	1.9	437	39	81	59	89	185	158	61	8.6	9.2
10	.50	1.2	314	40	83	59	86	191	156	53	8.6	9.2
11	3.2	1.0	248	51	88	60	99	139	157	48	9.2	8.9
12	.80	.90	208	52	88	71	91	110	156	46	8.6	8.3
13	.60	.80	180	52	86	83	94	94	148	43	8.9	7.8
14	.50	.80	156	52	85	79	99	95	147	36	8.9	10
15	.50	.80	139	51	78	78	105	126	147	32	8.9	8.3
16	.60	1.0	125	51	75	230	97	192	151	28	8.9	8.3
17	.60	3.6	116	51	72	215	75	257	146	24	9.2	8.3
18	.50	1.0	105	50	71	168	56	311	155	21	9.2	8.3
19	.60	1.0	97	49	71	150	55	347	167	19	9.2	9.2
20	.60	4.8	91	49	68	139	50	365	159	15	8.9	8.9
21	.70	1.6	85	70	66	135	51	377	182	11	8.9	8.6
22	.80	1.2	78	66	65	133	56	389	195	9.8	8.9	8.3
23	.80	1.1	71	58	63	131	51	377	186	9.5	8.9	8.3
24	.80	1.3	67	78	62	125	59	377	179	9.5	8.6	8.3
25	.70	1.2	62	72	68	116	37	349	179	9.5	8.6	8.3
26	.60	1.1	59	65	63	110	37	314	172	9.5	8.6	8.9
27	.60	1.1	55	65	63	109	38	278	165	9.2	8.6	8.6
28	.60	33	52	65	62	110	38	251	164	9.2	8.6	8.3
29	.60	17	49	67	-----	110	37	266	166	9.2	8.6	8.3
30	.60	1.4	48	133	-----	109	32	285	165	8.9	8.6	8.3
31	.70	-----	47	141	-----	127	-----	266	-----	9.2	8.7	-----
TOTAL	21.10	92.00	24,366.1	1,808	2,122	3,196	2,256	6,360	4,903	1,448.5	273.3	256.2
MEAN	.68	3.07	786	58.3	75.8	103	75.2	205	163	46.7	8.82	8.54
MAX	3.2	33	13,300	141	100	230	119	389	233	158	9.2	10
MIN	.40	.70	1.1	39	62	58	32	32	138	8.9	8.6	7.8
AC-FT	42	182	48,330	3,590	4,210	6,340	4,470	12,610	9,720	2,870	542	508

CAL YR 1966: TOTAL 25,041.30 MEAN 68.6 MAX 13,300 MIN .20 AC-FT 49,670
WAT YR 1967: TOTAL 47,102.20 MEAN 129 MAX 13,300 MIN .40 AC-FT 93,430

Note.--Fragmentary gage-height record Dec. 6.

11-2020. North Fork of Middle Fork Tule River near Springville, Calif.--Continued.

Combined discharge, in cubic feet per second, of North Fork of Middle Fork Tule River and Pacific Gas and Electric Co. conduit near Springville, Calif., water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	12	12	23	45	100	62	122	95	238	225	54	34
2	14	12	72	44	86	62	120	98	218	213	52	35
3	13	12	183	43	81	62	108	105	209	198	51	34
4	13	12	54	43	78	63	106	109	208	191	50	33
5	12	13	3,780	43	78	62	103	106	210	177	49	32
6	12	13	13,300	42	79	61	91	112	205	161	48	32
7	12	16	3,460	41	81	61	102	133	215	152	47	32
8	12	33	790	40	81	60	95	184	223	138	46	31
9	13	19	443	39	81	61	92	234	226	129	45	31
10	12	16	320	40	83	61	92	255	223	121	44	31
11	11	16	254	51	88	62	101	205	224	115	42	30
12	12	15	213	52	88	73	93	175	223	114	42	29
13	13	15	185	52	86	84	96	157	215	111	42	29
14	12	15	161	52	85	80	102	159	214	104	41	28
15	12	15	144	51	78	79	107	191	214	100	40	29
16	13	13	129	51	75	231	100	259	218	95	39	28
17	13	17	120	51	72	216	101	324	213	91	40	28
18	12	15	109	50	71	169	103	378	222	86	39	36
19	12	15	101	49	71	151	99	414	234	82	38	33
20	12	44	94	49	68	140	99	432	227	79	37	30
21	13	28	88	70	66	137	99	444	250	76	37	30
22	13	21	80	66	65	136	101	456	263	73	36	29
23	13	18	73	58	63	134	102	443	254	70	36	30
24	13	16	69	78	62	128	111	443	247	68	37	32
25	12	16	64	72	68	119	99	415	247	66	38	30
26	12	15	61	65	63	113	101	381	239	64	36	30
27	13	15	56	65	63	112	104	344	232	61	35	29
28	13	59	53	65	62	113	103	316	231	60	34	28
29	13	53	50	67	- - - -	113	101	302	233	59	34	30
30	13	27	48	133	- - - -	112	94	290	232	57	33	29
31	13	- - - -	47	141	- - - -	130	- - - -	271	- - - -	55	33	- - - -
Total	388	606	24,624	1,808	2,122	3,247	3,047	8,230	6,807	3,391	1,275	922
Mean	12.5	20.2	794	58.3	75.8	105	102	265	227	109	41.1	30.7
Max	14	59	13,300	141	100	231	122	456	263	225	54	35
Min	11	12	23	39	62	60	91	95	205	55	33	28
Ac-ft	770	1,200	48,840	3,590	4,210	6,440	6,040	16,320	13,500	6,730	2,530	1,830
Cal yr 1966 : Total	34,408			Mean 94.3	Max 13,300	Min 11		Ac-ft 68,250				
Wtr yr 1967 : Total	56,467			Mean 155	Max 13,300	Min 11		Ac-ft 112,000				

11-2031. NORTH FORK TULE RIVER AT SPRINGVILLE, CALIF.

LOCATION.--Lat 36°08'22", long 118°48'15", in SE $\frac{1}{4}$ sec.35, T.20 S., R.29 E., on left bank 0.1 mile upstream from Middle Fork Tule River, three-quarters of a mile northeast of Springville, and 12.9 miles northeast of Porterville.

DRAINAGE AREA.--97.6 sq mi.

RECORDS AVAILABLE.--February 1957 to December 1966 (discontinued).

GAGE.--Digital water-stage recorder. Altitude of gage is 1,040 ft (from topographic map). Prior to Aug. 2, 1966, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--9 years (1957-66), 29.6 cfs (21,430 acre-ft per year).

EXTREMES.--Maximum discharge during period October to December, 24,200 cfs Dec. 5 (gage height, 23 ft from floodmarks), from rating curve extended above 3,900 cfs as explained below; minimum daily, 0.3 cfs Oct. 1, Nov. 18, 19.

1957-66: Maximum discharge, 24,200 cfs Dec. 5, 1966 (gage height, 23 ft, from floodmarks), from rating curve extended above 3,900 cfs on basis of slope-area measurement of maximum flow; no flow for many days in 1958, 1960-62, 1964.

REMARKS.--Numerous small diversions above station for irrigation. Station destroyed by flood of Dec. 6, 1966.

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

DISCHARGE, IN CUBIC FEET PER SECOND, PERIOD OCTOBER TO DECEMBER 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.30	1.0	7.3									
2	.50	1.0	5.8									
3	.70	1.2	294									
4	.60	1.5	60									
5	.70	1.7	4,230									
6	.80	2.3	14,200									
7	.90	1.7	2,090									
8	1.0	2.7	734									
9	.70	2.0	405									
10	.80	1.5	310									
11	.70	1.0	230									
12	.70	.70	185									
13	.60	.70	165									
14	.50	.60	145									
15	.40	.60	130									
16	.40	.60	118									
17	.50	.40	107									
18	.50	.30	97									
19	.70	.30	88									
20	.90	1.6	81									
21	1.0	4.4	75									
22	.90	2.3	70									
23	.70	.90	65									
24	.60	.80	60									
25	.50	.70	56									
26	.50	.70	53									
27	.70	.70	50									
28	.80	1.0	48									
29	.90	.36	47									
30	.70	15	45									
31	.70	- - - -	44									
Total	20.90	85.90	24,295.1									
Mean	0.67	2.86	784									
Max	1.0	.36	14,200									
Min	0.3	0.3	5.8									
Ac-ft	41	170	48,190									

Cal yr 1966: Total 28,350.7 Mean 77.7 Max 14,200 Min 0.1 Ac-ft 56,230
Wtr yr 1967: Total - Mean - Max - Min - Ac-ft -

Note.--No gage-height record December 2-31.

TULARE LAKE BASIN

11-2032. TULE RIVER NEAR SPRINGVILLE, CALIF.

LOCATION.--Lat 36°05'41", long 118°50'09", in SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.15, T.21 S., R.29 E., on left bank 15 ft upstream from highway bridge, 2 miles southwest of Springville, and 4 miles downstream from North Fork.

DRAINAGE AREA.--225 sq mi.

RECORDS AVAILABLE.--October 1957 to September 1967.

GAGE.--Graphic water-stage recorder. Altitude of gage is 800 ft (from topographic map).

AVERAGE DISCHARGE.--10 years, 123 cfs (89,050 acre-ft per year); median of yearly mean discharges, 82 cfs (59,400 acre-ft per year).

EXTREMES.--Maximum discharge during year, 49,600 cfs Dec. 6 (gage height, 17.18 ft in gage well, 19.7 ft from floodmarks), from rating curve extended above 7,400 cfs as explained below; minimum daily, 2.5 cfs Oct. 1. 1957-67: Maximum discharge, 49,600 cfs Dec. 6, 1966 (gage height, 17.18 ft in gage well, 19.7 ft from floodmarks), from rating curve extended above 7,400 cfs on basis of slope-area measurement of maximum flow; no flow for many days in 1961.

Flood in December 1955 reached a stage of 13.7 ft from floodmarks (discharge, 21,000 cfs).

REMARKS.--Records fair. Many small diversions above station for irrigation. Power is developed on Middle Fork and tributaries. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.5	6.7	4.7	156	318	168	436	480	488	355	76	38
2	3.7	6.3	4.4	154	266	166	401	465	472	334	73	52
3	5.1	6.3	812	150	240	166	390	475	484	319	72	54
4	5.9	7.2	171	148	222	170	502	538	514	281	70	49
5	5.5	8.0	8,510	146	215	164	564	526	526	261	68	47
6	4.3	9.0	30,200	143	207	160	465	502	502	242	65	45
7	4.3	13	5,150	141	205	158	838	613	508	233	64	45
8	5.1	4.9	1,590	137	200	154	644	884	514	224	60	48
9	4.7	3.8	990	135	196	148	520	1,150	508	214	55	46
10	4.3	24	770	135	194	146	502	1,190	502	193	56	46
11	5.5	21	620	135	194	148	1,040	800	496	179	55	49
12	6.3	21	532	135	194	203	652	660	496	167	54	47
13	8.0	21	427	133	194	387	550	544	480	165	53	47
14	8.0	21	360	133	191	434	544	532	470	156	55	46
15	8.0	19	314	129	185	322	571	606	455	154	55	48
16	7.6	20	285	128	180	550	520	800	455	156	51	43
17	6.3	21	266	128	178	840	532	976	445	150	49	43
18	6.7	22	254	126	180	557	700	1,030	455	140	50	66
19	6.3	20	243	122	180	465	769	1,060	475	134	46	90
20	5.9	53	235	120	176	420	599	1,080	450	125	44	70
21	5.9	62	225	153	172	415	668	1,070	470	118	40	64
22	6.7	38	212	203	170	411	710	1,060	485	111	36	62
23	7.2	31	200	183	168	411	613	1,030	475	114	35	62
24	6.7	27	191	296	164	435	790	990	460	109	38	75
25	6.3	24	185	338	204	423	585	908	450	104	43	66
26	6.3	24	185	220	189	406	520	800	436	98	44	54
27	6.3	24	174	205	178	385	514	720	427	94	38	50
28	5.9	50	170	200	170	381	480	660	419	90	38	46
29	6.3	165	168	196	- - - -	432	470	613	411	90	36	52
30	6.7	67	164	291	- - - -	369	460	571	390	85	35	62
31	6.3	- - - -	156	436	- - - -	465	- - - -	526	- - - -	79	33	- - - -
Total	184.6	913.5	53,850	5,455	5,530	10,459	17,549	23,859	14,118	5,273	1,586	1,611
Mean	5.95	30.6	1,737	176	198	337	585	770	471	170	51.2	53.7
Max	8.0	165	30,200	436	318	-	1,040	1,190	526	355	76	90
Min	2.5	6.3	44	120	164	146	390	465	390	79	33	38
Ac-ft	366	1,820	106,800	10,820	10,970	20,750	34,810	47,320	28,000	10,460	3,150	3,200

Cal yr 1966: Total 69,834.3 Mean 191 Max 30,200 Min 0.40 Ac-ft 138,500
 Wtr yr 1967: Total 140,393.1 Mean 385 Max 30,200 Min 2.5 Ac-ft 278,470

Peak discharge (base, 350 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-03	0400	6.34	2,080	4-04	2300	4.40	860
12-06	0030	17.18	49,600	4-11	0500	4.78	1,540
1-24	2000	4.16	585	5-09	2300	5.05	1,800
1-30	2400	4.24	644	5-20	----	4.88	1,350
3-14	0400	3.87	578				

11-2045. SOUTH FORK TULE RIVER NEAR SUCCESS, CALIF.

LOCATION.--Lat 36°02'30", long 118°51'25", in NW¼SW¼ sec.4, T.22 S., R.29 E., on left bank 0.5 mile upstream from Crew Creek, 4 miles southeast of Success, and 5 miles upstream from mouth.

DRAINAGE AREA.--109 sq mi.

RECORDS AVAILABLE.--June 1930 to December 1954, January 1956 to September 1967. Monthly and yearly discharge only for some periods published in WSP 1735.

GAGE.--Graphic water-stage recorder. Altitude of gage is 770 ft (from topographic map). Prior to June 26, 1951, at site 0.4 mile downstream at different datum.

AVERAGE DISCHARGE.--35 years, 39.4 cfs (28,520 acre-ft per year); median of yearly mean discharges, 27 cfs (19,500 acre-ft per year).

EXTREMES.--Maximum discharge during year, 14,300 cfs Dec. 6 (gage height, 12.50 ft in gage well, 13.3 ft outside, from floodmarks), from rating curve extended above 3,100 cfs as explained below; no flow Oct. 1 to Nov. 7.

1930-54, 1956-67: Maximum discharge, 14,300 cfs Dec. 6, 1966 (gage height, 12.50 ft in gage well, 13.3 ft outside, from floodmarks), from rating curve extended above 3,100 cfs on basis of slope-area measurements at gage heights 11.36 and 12.50 ft; no flow at times in most years.

REMARKS.--Records good. Diversions for irrigation of 1,600 acres above station.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	9.9	45	83	44	97	206	167	60	21	7.0
2		0	9.4	46	32	45	37	209	152	53	20	13
3		0	137	48	83	45	84	215	143	56	20	12
4		0	36	51	77	46	146	236	137	54	19	10
5		0	1710	50	74	43	197	221	140	53	18	9.0
6		0	6.660	50	72	38	155	212	134	52	16	9.0
7		0	1.110	46	70	37	249	251	128	50	16	8.5
8		23	575	46	67	37	239	302	122	48	16	8.0
9		14	377	44	67	37	197	354	125	47	16	8.0
10		4.6	247	43	67	36	179	454	112	46	16	8.0
11		3.2	171	41	71	39	329	344	109	43	15	8.0
12		2.7	133	40	72	52	269	293	105	42	14	7.5
13		2.2	114	36	70	131	272	260	101	42	14	7.0
14		2.0	109	34	70	139	290	245	99	40	14	7.0
15		1.9	95	31	67	97	287	263	95	38	14	7.0
16		2.0	77	29	63	140	275	287	92	37	13	6.5
17		2.0	66	31	58	187	257	302	90	36	13	6.5
18		2.0	51	32	55	142	327	302	87	35	13	16
19		1.8	43	35	55	120	357	302	85	34	12	33
20		6.7	51	36	54	110	351	299	83	33	11	15
21		19	59	39	51	107	357	293	81	32	10	12
22		7.9	60	39	52	104	426	290	78	31	10	13
23		9.5	60	41	54	100	360	281	76	30	10	13
24		6.3	62	50	54	97	405	266	74	29	10	19
25		5.4	53	72	59	89	343	243	72	29	10	15
26		5.1	57	62	60	84	320	233	70	26	10	12
27		4.1	52	62	53	77	299	215	69	25	10	11
28		5.1	48	64	50	76	290	203	67	24	10	10
29		30	48	66	-----	104	269	197	65	24	11	12
30		11	46	93	-----	80	230	191	63	23	8.5	16
31		-----	45	123	-----	100	-----	182	-----	23	7.0	-----
Total	0	171.5	12,376.3	1,540	1,810	2,583	7,948	8,156	3,021	1,199	417.5	3,390
Mean	0	5.72	399	49.7	64.6	833	265	263	101	38.7	13.5	11.3
Max	0	30	6,660	128	83	187	426	454	167	60	21	33
Min	0	0	9.4	29	50	36	84	182	-	23	7.0	6.5
Ac-ft	0	340	24,550	3,050	3,590	5,120	15,760	16,180	5,990	2,380	828	672

Cal yr 1966: Total 15,478.0 Mean 42.4 Max 6,660 Min 0 Ac-ft 30,700
Wtr yr 1967: Total 39,561.3 Mean 108 Max 6,660 Min 0 Ac-ft 73,470

Peak discharge (base, 200 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-03	0500	5.43	340	4-04	2200	4.14	351	4-18	1500	4.40	440	5-09	2300	4.60	590
12-06	1100	12.50	14,300	4-07	1100	4.06	326	4-21	2300	4.63	522	5-17	2200	4.04	335
3-14	0300	3.88	203	4-11	0430	4.53	786	4-24	1600	4.42	447				
3-16	2300	3.99	250	4-15	2000	4.17	360	5-04	0100	3.81	254				

TULARE LAKE BASIN

11-2046.8. PIONEER DITCH BELOW SUCCESS DAM, CALIF.

LOCATION.--Lat 36°03'34", long 118°55'22", in NW¼ sec.35, T.21 S., R.28 E., on left bank 0.1 mile downstream from Success Dam and 5.5 miles east of Porterville.

RECORDS AVAILABLE.--April 1959 to September 1967. Prior to October 1960, monthly diversions only, published with Tule River near Porterville.

GAGE.--Digital water-stage recorder and Parshall flume. Datum of gage is 549.00 ft above mean sea level (levels by Corps of Engineers). Prior to Feb. 1, 1961, graphic water-stage recorder at site 0.5 mile downstream at different datum. Feb. 1, 1961, to Oct. 2, 1964, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--8 years, 7.58 cfs (5,490 acre-ft per year).

EXTREMES.--1960-67: Maximum daily discharge, 29 cfs Apr. 15, 1961; no flow at times in most years.

REMARKS.--Records excellent. Ditch receives water from Lake Success (see sta. no. 2047).

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	7.5	6.0						0	10	11	12	12
2	7.5	4.4						3.7	10	11	12	12
3	7.5	3.7						5.2	10	11	12	12
4	9.1	3.6						5.2	10	11	12	12
5	9.9	3.6						5.2	10	11	12	11
6	10	3.6						5.2	10	11	12	12
7	8.7	3.6						5.2	10	11	12	12
8	7.5	1.3						5.1	10	11	12	12
9	7.5	0						4.7	10	11	12	12
10	7.5	2.7						4.7	11	11	12	12
11	9.5	4.0						4.7	11	10	12	12
12	9.6	4.0						8.8	11	10	12	12
13	9.6	4.0						9.0	10	10	12	12
14	9.6	4.0						9.4	10	12	13	12
15	9.6	3.6						9.3	10	12	14	12
16	9.6	2.6						8.9	10	12	14	12
17	9.6	2.2						9.3	10	12	14	12
18	9.3	2.2						9.8	10	12	14	12
19	9.3	.80						9.8	10	12	14	12
20	9.1	0						9.8	11	12	14	10
21	9.1	0						9.8	11	12	13	9.0
22	9.3	0						9.8	11	12	13	9.2
23	9.3	0						9.8	11	12	14	9.1
24	9.3	0						9.8	11	12	14	9.7
25	9.3	0						9.9	11	12	13	10
26	9.3	0						10	11	12	12	10
27	9.3	0						10	11	12	12	10
28	9.3	0						10	11	12	12	10
29	8.6	0						10	11	12	12	10
30	6.8	0						10	11	12	12	10
31	6.0	-----						10	-----	12	12	-----
TOTAL	273.1	59.90	0	0	0	0	0	242.1	314	356	392	334.0
MEAN	8.81	2.00	0	0	0	0	0	7.81	10.5	11.5	12.6	11.1
MAX	10	6.0	0	0	0	0	0	10	11	12	14	12
MIN	6.0	0	0	0	0	0	0	0	10	10	12	9.0
AC-FT	542	119	0	0	0	0	0	480	623	706	778	662

CAL YR 1966: TOTAL 2,371.80 MEAN 6.50 MAX 17 MIN 0 AC-FT 4,700
WAT YR 1967: TOTAL 1,971.10 MEAN 5.40 MAX 14 MIN 0 AC-FT 3,910

11-2047. LAKE SUCCESS NEAR SUCCESS, CALIF.

LOCATION.--Lat 36°03'40", long 118°55'18", in SE¼NW¼ sec.35, T.21 S., R.28 E., in control tower near right abutment of Success Dam on Tule River, 5 miles east of Porterville.

DRAINAGE AREA.--391 sq mi.

RECORDS AVAILABLE.--November 1961 to September 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is at mean sea level, datum of 1929 (levels by Corps of Engineers).

EXTREMES.--Maximum contents during year, 101,300 acre-ft Dec. 7 (elevation, 658.63 ft); minimum, 5,340 acre-ft Nov. 3-6 (elevation, 583.65 ft).

1961-67: Maximum contents, 101,300 acre-ft Dec. 7, 1966 (elevation, 658.63 ft); minimum since initial season of operation, 5,340 acre-ft Nov. 3-6, 1966 (elevation, 583.65 ft).

REMARKS.--Lake is formed by earthfill dam and dike. Storage began November 1961. Usable capacity, 85,400 acre-ft between elevations 559.0 ft (invert of outlet structure) and 652.5 ft (spillway crest). Spillway design flood pool elevation, 686.8 ft (capacity, 202,800 acre-ft). Dead storage 720 acre-ft. Records, including extremes, represent usable contents.

COOPERATION.--Records furnished by Corps of Engineers.

CAPACITY TABLE (ELEVATION, IN FEET, AND CONTENTS, IN ACRE-FT)

580	4,010	620	32,000
585	5,900	640	59,500
590	8,380	660	105,100
600	14,900	690	217,200

Contents, in acre-feet, at 2400 hours, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5880	5350	7360	53300	38900	29600	32500	64100	88900	87400	75400	41200
2	5850	5350	7480	52200	38900	28900	33200	64000	89000	87200	74200	40400
3	5830	5340	9150	51000	38900	28200	33900	63900	89000	87100	72900	39500
4	5810	5340	9650	49800	38900	27400	35000	64000	89000	87000	71700	38800
5	5790	5340	28400	48600	38800	26700	36300	64400	89100	86800	70500	37900
6	5770	5340	100500	47400	38600	25900	37300	65000	89100	86700	69300	37200
7	5750	5350	97600	46200	38300	25100	39200	65800	89200	86600	68000	36400
8	5740	5430	93200	44900	38100	24300	40700	66900	89200	86500	66900	35600
9	5720	5530	88500	44200	37900	23500	42000	68400	89300	86500	65800	34800
10	5700	5590	83000	43800	37600	22700	43300	70500	89300	86400	64700	34100
11	5690	5620	76800	43400	37300	21900	46000	71700	89400	86300	63600	33400
12	5660	5660	73400	42900	37100	21300	47800	72500	89400	86200	62500	32700
13	5650	5690	74300	42500	36800	21700	49200	73100	89400	86100	61400	32000
14	5630	5720	74400	42100	36500	22700	50500	73600	89300	86000	60300	31300
15	5610	5750	73300	41500	36200	23500	51700	74300	89200	86000	59200	30700
16	5590	5780	71800	41000	35900	24800	52700	75200	89000	85900	58100	30100
17	5570	5810	70000	40600	35400	26400	53500	76500	88800	85800	57000	29500
18	5550	5850	67900	40000	35000	27400	55300	77700	88700	85700	55900	29000
19	5540	5890	66200	39500	34600	28000	57100	79000	88500	85400	54900	28500
20	5520	5980	65100	39000	34100	28500	58200	80100	88300	85200	53800	28000
21	5510	6160	64300	38500	33500	28500	59400	81200	88200	84800	52700	27400
22	5490	6270	63500	38400	33000	28200	61100	82400	88100	84500	51600	26900
23	5480	6340	62700	38100	32400	27800	61700	83600	88100	84200	50400	26400
24	5460	6410	61900	38300	31800	27400	62800	84600	88100	83600	49400	25900
25	5440	6470	61000	38900	31400	27600	63300	85600	88000	82700	48300	25400
26	5420	6530	60100	38800	31100	28000	63600	86400	87900	81700	47300	25000
27	5410	6560	59100	38400	30600	28600	63800	87000	87800	80700	46200	24500
28	5400	6650	58000	38000	30200	29300	64000	87500	87700	79600	45200	24100
29	5380	7050	56900	37700	-----	30100	64200	87900	87600	78500	44100	23700
30	5370	7230	55700	37800	-----	30800	64200	88400	87500	77500	43100	23300
31	5360	-----	54600	38700	-----	31700	-----	88700	-----	76500	42100	-----
(+)	583.71	587.88	637.08	625.87	618.20	619.67	642.58	653.83	653.34	648.60	628.56	610.81
(#)	+530	+1870	+47370	-15900	-8500	+1500	+32500	+24500	-1200	-11000	-34400	-18800
(++)	214	95	123	105	120	182	319	1110	1560	2120	1560	656
Max	5880	7230	100500	53300	38900	31700	64200	88700	89400	87400	75400	41200
Min	5360	5340	7360	37700	30200	21300	32500	63900	87500	76500	42100	23300

Calendar year 1966 # +44,400 Max 100,500 Min 5,340
 Water year 1966-67 # +17,410 Max 100,500 Min 5,340

† Elevation, in feet, at end of month.

Change in contents, in acre-feet.

++ Evaporation, in acre-feet.

TULARE LAKE BASIN

11-2049. TULE RIVER BELOW SUCCESS DAM, CALIF.

LOCATION.--Lat 36°03'23", long 118°55'22", in SW $\frac{1}{4}$ sec.35, T.21 S., R.28 E., on right bank 1,000 ft downstream from Success Dam and 5 miles east of Porterville.

DRAINAGE AREA.--393 sq mi.

RECORDS AVAILABLE.--October 1953 to September 1967. Prior to October 1960, published as "at Worth Bridge, near Porterville."

GAGE.--Digital water-stage recorder and broad-crested weir. Datum of gage is 536.00 ft above mean sea level, datum of 1929 (levels by Corps of Engineers). Prior to October 1960, graphic water-stage recorder at site 0.5 mile downstream at different datum. October 1960 to Oct. 2, 1964, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--14 years, 152 cfs (110,000 acre-ft per year), adjusted for storage, diversion and evaporation.

EXTREMES.--Maximum discharge during year, 9,050 cfs Dec. 6 (includes flow through spillway); minimum daily, 0.50 cfs Nov. 24-27, 29 to Dec. 4.

1953-61 (prior to regulation by Lake Success): Maximum discharge, 27,000 cfs Dec. 23, 1955 (gage height, 21.65 ft, site and datum then in use), from rating curve extended above 1,400 cfs on basis of studies of upstream peaks; no flow at times in 1954-57, 1959-61.

1961-67: Maximum discharge, 9,050 cfs Dec. 6, 1966 (includes flow through spillway); no flow for several months in 1961-62, 1965.

REMARKS.--Records good. Flow regulated by Lake Success beginning Nov. 23, 1961 (see sta. no. 2047). Discharge records December 6-10, 1966, include flow over spillway that bypassed gaging station. Pioneer ditch (see sta. no. 2046.8) diverts above station for irrigation. Records of chemical analyses for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	.60	.60	.5	800	447	491	23	750	614	477	630	494
2	.70	.60	.5	800	413	540	23	750	618	477	681	459
3	.70	.60	.5	792	399	570	21	750	618	413	705	447
4	.60	.60	.5	805	399	579	11	755	599	390	705	444
5	.80	.60	180	805	399	574	3.4	513	590	390	700	441
6	.70	.60	3,760	802	433	583	3.4	450	590	368	700	428
7	.70	.60	7,250	797	450	603	3.4	450	590	355	651	414
8	.70	.60	4,360	792	450	595	2.9	492	570	285	626	411
9	.70	.60	4,040	558	450	594	2.7	548	550	250	626	411
10	.60	.60	4,020	390	450	590	2.7	564	550	250	626	408
11	.60	.60	4,010	390	450	586	2.7	566	550	250	622	390
12	.70	.60	2,440	390	447	588	2.7	566	550	250	605	378
13	.60	.60	98	408	447	340	37	566	550	250	598	375
14	.80	.60	435	419	444	105	123	566	582	218	594	361
15	1.0	.70	1,040	417	444	50	251	570	598	202	590	341
16	.60	.70	1,200	414	461	117	281	629	598	202	590	339
17	.60	.70	1,320	414	474	182	266	661	602	202	586	338
18	.60	.60	1,410	411	471	268	266	700	600	223	583	335
19	.60	.60	1,280	423	471	300	288	755	598	266	582	335
20	.60	.70	922	431	481	300	364	810	598	289	582	333
21	.60	.60	690	429	498	492	401	810	578	286	582	330
22	.60	.60	690	427	503	621	507	768	537	286	582	327
23	.60	.60	690	423	512	647	654	710	508	286	578	325
24	.60	.50	690	420	491	650	741	710	505	422	578	318
25	.60	.50	690	420	457	330	797	682	505	549	574	317
26	.60	.50	690	446	441	214	800	662	505	613	570	280
27	.60	.50	754	492	449	74	800	662	485	622	566	258
28	.60	.60	810	502	474	27	775	662	477	618	566	258
29	.60	.50	805	499	-----	25	750	632	477	618	566	253
30	.60	.50	798	498	-----	26	750	614	477	618	562	253
31	.60	-----	798	484	-----	23	-----	614	-----	618	526	-----
TOTAL	20.10	17.80	45,872.0	16,498	12,705	11,684	8,952.9	19,937	16,769	11,543	18,832	10,801
MEAN	.65	.59	1,480	532	454	377	298	643	559	372	607	360
MAX	1.0	.70	7,250	805	512	650	800	810	618	622	705	494
MIN	.60	.50	.50	390	399	23	2.7	450	477	202	526	253
AC-FT	40	35	90,990	32,720	25,200	23,170	17,760	39,540	33,260	22,900	37,350	21,420
MEAN†	4.33	35.6	2,253	275	303	404	851	1,067	575	240	85.9	65.7
AC-FT†	266	2,120	138,500	16,900	16,810	24,850	50,660	65,580	34,230	14,730	5,280	3,970

CAL YR 1966:	TOTAL	62,693.00	MEAN	172	MAX	7,250	MIN	.50	AC-FT	124,300	MEAN †	244	AC-FT †	176,800
WAT YR 1967:	TOTAL	173,631.80	MEAN	476	MAX	7,250	MIN	.50	AC-FT	344,400	MEAN †	516	AC-FT †	373,900

† Adjusted for change in contents and evaporation in Lake Success and diversion to Pioneer ditch.

TULARE LAKE BASIN

577

11-2065. MIDDLE FORK KAWEAH RIVER NEAR POTWISHA CAMP, CALIF.

LOCATION.--Lat 36°30'45", long 118°47'25", in NW $\frac{1}{4}$ sec.25, T.16 S., R.29 E., on right bank 0.7 mile southeast of Potwisha Camp and 0.9 mile upstream from confluence with Marble Fork Kaweah River.

DRAINAGE AREA.--102 sq mi.

RECORDS AVAILABLE.--July 1949 to September 1967. Monthly discharge only for water years 1956, 1957, published in WSP 1735. Prior to October 1954, records for No. 3 conduit published separately; combined only, October 1954 to September 1962.

GAGE.--Graphic water-stage recorder and concrete control on river; graphic water-stage recorder and concrete-lined channel for conduit diversion. Altitude of gage is 2,100 ft (from topographic map). Prior to October 1955, at datum 0.70 ft higher.

AVERAGE DISCHARGE (river only).--18 years, 129 cfs (93,390 acre-ft per year).
(total flow).--18 years, 169 cfs (122,400 acre-ft per year).

EXTREMES (river only).--Maximum discharge during year, 23,300 cfs Dec. 6 (gage height, 17.7 ft); minimum daily, 8.7 cfs Nov. 17, 18.

1949-67: Maximum discharge, 46,800 cfs Dec. 23, 1955 (gage height, 29.0 ft, from floodmarks, datum then in use), by slope-area measurement of maximum flow; minimum daily, 0.1 cfs Nov. 12-15, 1949.

(combined).--Maximum discharge during year, 23,300 cfs Dec. 6; minimum daily, 9.5 cfs Nov. 2, 3.

1949-67: Maximum discharge, 46,800 cfs Dec. 23, 1955; minimum daily, 8.8 cfs Sept. 23-25, 1949.

REMARKS.--Records good. Middle Fork No. 3 conduit diverts from left bank of Middle Fork Kaweah River 0.5 mile upstream from station in NE $\frac{1}{4}$ sec.26, T.16 S., R.29 E. Flow from this conduit joins with that of Marble Fork Kaweah River No. 3 conduit, and the combined flow passes through Kaweah River No. 3 powerhouse of Southern California Edison Co.; water is returned to Kaweah River 2.7 miles downstream from confluence of Marble and Middle Forks. For records of combined discharge of river and conduit, see following page.

COOPERATION.--Gage-height record and 10 discharge measurements for river and gage-height record and 11 discharge measurements for conduit furnished by Southern California Edison Co.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	12	9.6	65	133	191	112	207	231	650	1,370	382	77
2	12	9.3	177	130	167	113	209	237	556	1,360	370	82
3	12	9.3	417	127	158	115	211	247	550	1,250	368	98
4	12	9.6	100	125	150	113	235	283	614	1,160	342	157
5	12	9.6	3,360	124	149	112	231	271	658	1,080	322	190
6	12	10	10,500	106	148	108	227	289	586	1,040	295	112
7	12	12	1,720	98	148	107	275	372	654	970	251	86
8	12	14	846	93	144	108	257	530	734	860	219	71
9	12	12	596	99	144	109	263	638	746	770	206	62
10	11	12	476	101	155	109	253	654	760	718	225	57
11	11	12	392	102	158	118	265	498	775	718	217	51
12	12	11	338	108	161	161	253	429	760	755	215	48
13	12	11	301	102	162	219	263	390	706	775	211	48
14	12	10	277	101	160	197	267	426	694	726	198	45
15	12	9.6	261	101	143	189	269	542	738	750	190	36
16	12	9.0	247	102	134	669	263	730	835	750	192	23
17	12	8.7	237	102	130	592	255	915	820	678	177	20
18	12	8.7	227	101	127	437	255	1,050	920	622	153	64
19	11	9.0	217	93	126	338	255	1,120	990	598	151	90
20	11	118	207	86	123	303	259	1,190	910	562	145	72
21	11	26	193	240	120	295	255	1,320	1,120	530	138	43
22	11	14	182	182	115	295	257	1,440	1,140	504	130	31
23	11	12	173	134	115	283	249	1,470	1,100	477	138	33
24	12	11	167	202	113	263	269	1,460	1,140	492	198	34
25	11	10	161	179	126	239	253	1,320	1,200	514	196	44
26	10	10	156	166	116	221	257	1,190	1,210	522	160	35
27	10	10	146	162	113	219	261	1,120	1,170	435	129	22
28	10	513	146	154	112	229	255	1,040	1,170	506	110	15
29	10	349	144	166	- - - -	231	249	945	1,290	510	96	30
30	10	113	140	307	- - - -	209	227	860	1,350	498	87	49
31	10	- - - -	134	277	- - - -	225	- - - -	775	- - - -	429	82	- - - -
Total	352	1,382.4	22,703	4,303	3,908	7,038	7,504	23,982	26,546	22,929	6,293	1,825
Mean	11.4	46.1	732	139	140	227	250	774	885	740	203	60.8
Max	12	513	10,500	307	191	669	275	1,470	1,350	1,370	382	190
Min	10	8.7	65	86	112	107	207	231	550	429	82	15
Ac-ft	698	2,740	45,030	8,530	7,750	13,960	14,880	47,570	52,650	45,480	12,480	3,620

Cal yr 1966: Total 48,055.4 Mean 132 Max 10,500 Min 8.7 Ac-ft 95,320
Wtr yr 1967: Total 128,765.4 Mean 353 Max 10,500 Min 8.7 Ac-ft 255,400

TULARE LAKE BASIN

11-2065, Middle Fork Kaweah River near Potwisha Camp, Calif.--Continued.

Combined discharge, in cubic feet per second, of Middle Fork Kaweah River and Middle Fork Kaweah River
No. 3 conduit near Potwisha Camp, Calif., water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	12	9.9	117	133	227	142	244	271	690	1,410	423	118
2	12	9.5	229	130	202	143	246	278	596	1,400	407	125
3	13	9.5	455	127	190	145	248	288	590	1,290	403	143
4	13	9.8	138	125	181	143	273	324	655	1,200	387	203
5	13	9.8	3,360	126	180	141	270	312	699	1,120	356	234
6	13	11	10,500	118	179	137	267	330	627	1,080	327	153
7	13	20	1,720	114	179	135	315	413	695	1,010	282	129
8	12	40	846	112	175	136	297	572	775	894	251	116
9	12	28	596	112	175	137	303	679	787	802	240	106
10	12	25	476	112	186	137	293	695	801	749	262	99
11	12	20	392	114	189	146	305	539	816	749	253	90
12	13	19	338	118	192	193	293	470	802	786	251	86
13	13	17	301	116	193	255	303	431	748	806	247	86
14	12	16	277	116	191	232	308	467	736	756	233	82
15	12	16	261	116	174	223	309	584	780	780	227	75
16	12	18	247	116	165	693	303	772	877	780	231	69
17	12	20	237	115	160	616	295	957	862	708	215	63
18	12	17	227	114	157	477	295	1,040	962	652	189	108
19	11	16	217	112	156	478	295	1,160	1,030	625	187	130
20	11	168	207	110	153	342	300	1,230	952	592	177	105
21	11	79	193	267	150	334	296	1,360	1,160	560	174	84
22	11	57	182	209	145	334	298	1,480	1,180	534	168	78
23	11	45	173	160	145	322	290	1,490	1,140	507	176	78
24	12	29	167	226	143	301	309	1,460	1,180	523	232	80
25	11	32	161	211	156	277	293	1,340	1,240	546	224	90
26	10	30	156	204	146	258	298	1,230	1,250	554	190	78
27	10	29	146	200	143	256	302	1,160	1,210	467	157	68
28	10	553	146	191	142	267	296	1,080	1,210	540	137	68
29	10	404	144	204	---	269	290	985	1,330	546	126	87
30	10	166	140	341	---	246	267	900	1,390	534	119	108
31	10	---	134	304	---	263	---	815	---	468	121	---
Total	361	1,923.5	22,883	4,873	4,774	8,178	8,701	25,112	27,770	23,968	7,372	3,139
Mean	11.6	64.2	738	157	170	264	290	810	926	773	238	105
Max	13	553	10,500	341	227	693	315	1,490	1,390	1,410	423	234
Min	10	9.5	117	110	142	135	244	271	590	467	119	68
Ac-ft	716	3,820	45,390	9,670	9,470	16,220	17,260	49,810	55,100	47,540	14,620	6,230

Cal yr 1966: Total **58,700.5** Mean **161** Max **10,500** Min **9.5** Ac-ft **116,400**
Wtr yr 1967: Total **139,054.5** Mean **381** Max **10,500** Min **9.5** Ac-ft **275,800**

11-2080. MARBLE FORK KAWEAH RIVER AT POTWISHA CAMP, CALIF.

LOCATION.--Lat 36°31'10", long 118°48'10", in SE $\frac{1}{4}$ sec.23, T.16 S., R.29 E., on left bank 0.1 mile north of, Potwisha Camp and 0.3 mile upstream from confluence with Middle Fork Kaweah River.

DRAINAGE AREA.--51.4 sq mi.

RECORDS AVAILABLE.--March 1950 to September 1967. Monthly discharge only for March 1950, published in WSP 1315-A. Prior to October 1954, records for river and conduit published separately; combined only, October 1954 to September 1962.

GAGE.--Water-stage recorder and concrete control on river; water-stage recorder and concrete control for conduit diversion. Altitude of gage is 2,150 ft (from topographic map).

AVERAGE DISCHARGE (river only).--17 years, 71.1 cfs (51,470 acre-ft per year); median of yearly mean discharges, 58 cfs (42,000 acre-ft per year).
(total flow).--17 years, 97.4 cfs (70,510 acre-ft per year); median of yearly mean discharges, 85 cfs (61,500 acre-ft per year).

EXTREMES (river only).--Maximum discharge during year, 6,400 cfs Dec. 6 (gage height, 11.50 ft); minimum daily, 0.7 cfs Sept. 22, 23.

1950-67: Maximum discharge, 12,500 cfs Dec. 23, 1955 (gage height, 13.4 ft), from rating curve extended above 1,100 cfs on basis of slope-area measurement of maximum flow; no flow Sept. 5-15, Oct. 24-28, 1953, Oct. 26-31, 1957.

(combined).--Maximum discharge during year, 6,400 cfs Dec. 6; minimum daily, 3.4 cfs Oct. 1.
1950-67: Maximum discharge, 12,500 cfs Dec. 23, 1955; minimum daily, 1.6 cfs July 30, Sept. 14-16, 1961.

REMARKS.--Records good. Marble Fork Kaweah River No. 3 conduit diverts from left bank of Marble Fork 0.3 mile above station; water is returned to Kaweah River 2.7 miles downstream from confluence of Marble and Middle Forks. For records of combined discharge of river and conduit, see following page. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

COOPERATION.--Gage-height record and 11 discharge measurements for river and gage-height record and 10 discharge measurements for conduit furnished by Southern California Edison Co.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.8	3.8	14	82	120	89	89	63	375	885	152	25
2	2.8	4.0	77	81	103	91	84	66	305	865	144	15
3	3.0	4.0	227	79	90	92	81	68	310	780	142	12
4	3.4	4.0	36	78	80	89	84	76	360	681	128	12
5	3.6	4.0	1,690	79	81	84	80	72	381	661	121	4.0
6	3.6	4.2	4,540	74	81	70	77	80	332	613	107	2.4
7	3.8	4.7	1,100	71	80	48	88	117	396	574	82	2.4
8	4.0	5.3	522	70	79	45	81	204	462	508	71	2.3
9	3.6	5.3	322	70	80	48	84	232	468	456	61	2.6
10	3.2	4.9	255	70	85	47	84	228	468	420	78	3.4
11	3.2	4.7	223	72	91	49	85	172	477	435	78	2.6
12	3.2	6.9	199	74	92	59	82	142	468	441	73	1.5
13	3.2	9.3	181	73	91	70	81	131	417	543	73	1.3
14	3.4	9.3	163	73	88	71	88	150	420	453	64	1.2
15	3.4	9.3	152	73	77	57	87	228	462	423	53	1.0
16	3.2	9.3	145	73	70	391	82	336	501	414	58	1.0
17	3.2	9.6	139	72	66	375	82	426	504	366	56	1.0
18	3.1	10	133	71	67	239	85	526	585	328	42	1.1
19	3.1	10	128	69	67	187	80	589	633	310	49	1.0
20	3.1	66	125	69	65	163	80	641	585	288	78	.90
21	3.1	24	120	120	61	156	78	731	723	265	88	.80
22	3.1	12	112	97	60	154	78	820	755	240	71	.70
23	3.1	9.3	109	89	60	151	76	860	714	250	62	.70
24	3.2	8.5	104	89	55	131	79	940	709	240	50	.80
25	3.2	8.2	98	90	56	116	71	845	750	250	28	.90
26	3.1	7.1	97	89	52	105	74	723	765	238	20	.90
27	3.1	7.6	89	92	72	100	81	665	750	184	11	.90
28	3.4	436	90	88	86	107	76	629	755	198	11	.90
29	3.4	224	90	91	-----	103	71	571	840	204	12	.90
30	3.4	40	88	184	-----	92	66	522	875	206	13	1.0
31	3.6	-----	83	183	-----	92	-----	477	-----	200	9.2	-----
Total	101.6	965.3	11,451	2,685	2,155	3,671	2,414	12,330	16,545	12,919	2,085.2	102.20
Mean	3.28	32.2	369	86.6	77.0	118	80.5	398	552	417	67.3	3.41
Max	4.0	436	4,540	184	120	391	89	940	875	885	152	25
Min	2.8	3.8	14	69	52	45	66	63	305	184	9.2	.70
Ac-ft	202	1,910	22,710	5,330	4,270	7,280	4,790	24,460	32,820	25,620	4,140	203

Cal yr 1966: Total 26,902.5 Mean 73.7 Max 4,540 Min 2.4 Ac-ft 53,360
Wtr yr 1967: Total 67,424.3 Mean 185 Max 4,540 Min .70 Ac-ft 133,700

Combined discharge, in cubic feet per second, of Marble Fork Kaweah River and Marble Fork Kaweah River
No. 3 conduit at Potwisha Camp, Calif., water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.4	4.2	51	82	120	89	141	113	415	940	231	80
2	3.6	4.4	116	81	103	91	136	118	353	920	222	86
3	3.9	4.4	265	79	101	92	133	120	360	835	220	86
4	4.0	4.4	76	78	98	89	137	126	410	735	206	84
5	4.0	4.4	1700	79	99	84	134	122	433	714	198	65
6	4.1	4.7	4540	74	100	85	131	133	384	668	181	49
7	4.2	7.6	1100	71	102	86	141	172	449	634	155	42
8	4.4	13	522	70	103	87	134	260	516	568	138	39
9	4.0	9.0	322	70	104	89	137	284	522	516	133	37
10	3.6	7.1	255	70	109	87	137	278	522	480	153	33
11	3.6	6.5	223	72	117	88	137	222	530	497	153	28
12	3.6	8.7	199	74	118	95	135	192	521	505	148	26
13	3.7	11	181	73	117	106	134	183	470	607	148	26
14	3.8	11	163	73	115	111	141	204	473	517	136	26
15	3.7	11	152	73	105	101	140	282	515	487	128	25
16	3.5	12	145	73	100	422	135	388	554	478	131	23
17	3.6	15	139	72	98	404	135	479	557	432	129	21
18	3.5	14	133	71	99	283	138	580	638	397	112	36
19	3.5	14	128	69	99	231	133	644	687	380	113	60
20	3.5	97	125	69	97	207	132	696	637	355	135	35
21	3.5	57	120	120	93	201	129	786	776	334	142	28
22	3.6	36	112	97	94	201	130	875	808	309	132	26
23	3.5	25	109	89	94	197	128	894	754	321	122	26
24	3.6	22	104	89	93	180	131	942	763	313	125	27
25	3.6	19	98	90	97	165	122	857	804	325	103	30
26	3.5	17	97	89	94	154	125	759	820	314	92	26
27	3.5	18	89	92	74	150	133	708	805	261	68	23
28	3.8	462	90	88	86	157	127	675	810	276	61	23
29	3.8	262	90	91	---	153	122	615	896	282	57	31
30	3.8	78	88	184	---	142	116	570	930	286	57	43
31	4.0	---	83	183	---	143	---	525	---	280	55	---
Total	1154	12594	11615	2685	2829	4770	3984	13802	18112	14966	4184	1190
Mean	3.72	42.0	375	86.6	101	154	133	445	604	483	135	39.7
Max	4.4	462	4540	184	120	422	141	942	930	940	231	86
Min	3.4	4.2	51	69	74	84	116	113	353	261	55	21
Ac-ft	229	2500	23040	5330	5610	9460	7900	27380	35920	29680	8300	2360
Cal yr 1966; Total 340148 Mean 93.2 Max 4540 Min 31 Ac-ft 67470												
Wtr yr 1967; Total 795118 Mean 218 Max 4540 Min 34 Ac-ft 157700												

11-2085. MIDDLE FORK KAWEAH RIVER TRIBUTARY NEAR HAMMOND, CALIF.

LOCATION.--Lat 36°29'35", long 118°49'30", in NW¼SW¼ sec.34, T.16 S., R.29 E., at culvert on State Highway 198, in Sequoia National Park, 2.7 miles northeast of Hammond.

DRAINAGE AREA.--1.90 sq mi.

RECORDS AVAILABLE.--1960-67 (annual maximum only), May to September 1967.

GAGE.--Graphic water-stage recorder, crest-stage gage, and tipping-bucket rain gage. Altitude of gage is 1,740 ft (from topographic map).

EXTREMES.--Maximum discharge during year, 879 cfs Dec. 6 (gage height, 30.63 ft), from rating curve extended above 7 cfs as explained below; no flow for many days.

1960-67: Maximum discharge, 879 cfs Dec. 6, 1966 (gage height, 30.63 ft), from rating curve extended above 7 cfs on basis of computation of flow through culvert at gage heights 11.22, 11.71, 12.00, 12.50, 18.41 ft, and computation of flow through culvert plus road-overflow at gage height 30.63 ft; no flow for many days each year.

REMARKS.--Records good except those for period of no gage-height record, which are poor. Minor diversion above station for domestic use.

Discharge, in cubic feet per second, period May to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1								-	2.6	0.60	0.20	0
2								-	2.4	.60	.20	.10
3								-	2.2	.50	.20	.10
4								-	2.0	.50	.20	0
5								-	2.0	.50	.20	0
6								-	2.2	.50	.20	0
7								-	2.0	.50	.20	0
8								-	1.8	.50	.20	0
9								-	1.7	.50	.20	0
10								6.2	1.5	.50	.10	0
11								5.8	1.5	.40	.10	0
12								5.4	1.4	.40	.10	0
13								5.1	1.5	.40	.10	0
14								4.8	1.4	.40	.10	0
15								4.5	1.2	.40	.10	0
16								4.2	1.2	.40	.10	0
17								4.0	1.1	.40	.10	0
18								3.7	1.0	.40	.10	.10
19								3.6	1.0	.40	0	.10
20								3.4	.90	.30	.10	.10
21								3.2	1.0	.30	0	.10
22								3.2	.90	.30	0	.10
23								3.0	.80	.30	0	.10
24								2.9	.70	.30	0	.10
25								2.9	.70	.30	0	.10
26								2.9	.70	.30	0	.10
27								2.9	.60	.30	0	0
28								2.8	.60	.20	0	0
29								2.8	.60	.20	0	.10
30								2.8	.60	.20	0	.10
31		- - - - -			- - - - -		- - - - -	2.6	- - - - -	.20	0	- - - - -
Total	0	0						-	39.80	12.00	2.80	1.30
Mean	0	0						-	1.33	0.39	0.09	0.04
Max	0	0						-	2.6	0.60	0.20	0.10
Min	0	0						-	0.60	0.20	0	0
Ac-ft	0	0						-	79	24	5.6	2.6

Cal yr 1966: Total - Mean - Max - Min - Ac-ft -
Wtr yr 1967: Total - Mean - Max - Min - Ac-ft -

Note.-- No gage-height record June 29 to July 31.

TULARE LAKE BASIN

11-2087.3. EAST FORK KAWEAH RIVER NEAR THREE RIVERS, CALIF.

LOCATION.--Lat 36°27'05", long 118°47'15", in NW¼ sec.14, T.17 S., R.29 E., on left bank just downstream from diversion dam and 6.6 miles east of Three Rivers.

DRAINAGE AREA.--85.8 sq mi.

RECORDS AVAILABLE.--May 1952 to September 1955, October 1957 to September 1967. Prior to October 1962, combined only.

GAGE.--Graphic water-stage recorder and Parshall flume on river; graphic water-stage recorder and Parshall flume for conduit diversion. Altitude of gage is 2,500 ft (from topographic map). May 15, 1952, to Sept. 30, 1955, at site 200 ft downstream at different datum.

AVERAGE DISCHARGE (river only).--13 years, 81.2 cfs (58,790 acre-ft per year).
(total flow).--13 years, 109 cfs (78,810 acre-ft per year).

EXTREMES (river only).--Maximum discharge during year, 13,000 cfs Dec. 6 (gage height, 21 ft, from flood profile), by slope-area measurement of maximum flow; minimum daily, 0.30 cfs Oct. 6, 7.
1952-55, 1957-67: Maximum discharge, 13,000 cfs Dec. 6, 1966 (gage height, 21 ft, from flood profile), by slope-area measurement of maximum flow; no flow Jan. 22, Oct. 18-20, 1962.
(combined).--Maximum discharge during year, 13,000 cfs Dec. 6; minimum daily, 9.4 cfs Nov. 2, 3.
1952-55, 1957-67: Maximum discharge, 13,000 cfs Dec. 6, 1966; minimum daily, 3.5 cfs Sept. 28, 29, 1960.

REMARKS.--East Fork Kaweah River No. 1 conduit diverts up to 30 cfs from left bank of river near diversion dam. Flow from this conduit passes through Hammond powerhouse of Southern California Edison Co.; water is returned to Middle Fork Kaweah River in sec.8, T.17 S., R.29 E., 1.9 miles downstream from mouth of East Fork. For records of combined discharge of river and conduit, see following page.

COOPERATION.--Records furnished by Southern California Edison Co. and reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	.40	.50	14	117	143	77	124	142	534	1,240	260	62
2	.40	.40	197	114	125	78	122	148	482	1,200	260	73
3	.40	.40	177	112	125	78	123	158	477	1,160	235	90
4	.40	.50	67	111	102	76	142	168	508	1,120	239	78
5	.40	.50	3,200	111	102	73	135	163	529	1,090	220	80
6	.30	.40	8,000	108	78	73	124	172	482	960	206	100
7	.30	.40	1,500	106	111	73	179	219	546	860	180	80
8	.40	12	550	105	111	73	154	327	599	680	189	64
9	.40	4.9	400	80	110	74	154	406	634	565	189	60
10	.50	.50	360	73	118	74	152	388	665	526	157	55
11	.50	.50	320	75	125	80	166	312	708	515	146	48
12	.50	.50	300	90	125	121	158	271	698	526	143	41
13	.50	.40	291	73	125	165	164	254	653	508	144	41
14	.50	.50	254	73	125	145	168	283	642	470	146	38
15	.50	.50	249	71	106	130	170	387	686	455	160	37
16	.50	.50	225	73	105	331	159	533	724	422	157	38
17	.40	.50	225	73	102	269	156	670	695	402	132	29
18	.40	.50	201	71	100	216	176	810	860	380	132	29
19	.60	.40	201	71	97	180	171	900	900	362	117	51
20	.50	50	176	71	89	159	164	1,010	870	356	114	37
21	.50	97	168	346	87	154	164	1,050	1,120	335	100	31
22	.50	30	157	346	85	153	166	1,070	1,180	315	92	29
23	.50	.40	157	105	81	154	168	1,120	1,150	302	90	29
24	.50	.40	153	97	79	145	178	1,120	1,170	302	119	38
25	.50	.40	143	143	97	134	158	1,080	1,120	298	122	37
26	.50	.60	143	92	85	125	168	1,010	1,180	284	122	29
27	.50	.80	132	95	85	126	173	940	1,150	269	122	29
28	.50	185	125	97	79	133	167	810	1,180	329	85	26
29	.50	110	122	122	---	137	165	777	1,220	315	78	41
30	.50	23	119	125	---	127	144	716	1,240	291	75	38
31	.60	---	85	201	---	138	---	632	---	286	65	---
Total	14.40	408.10	18,411	3,547	2,902	4,071	4,712	18,046	24,602	17,123	4,596	1,458
Mean	.46	13.6	594	114	104	131	157	582	820	552	148	48.6
Max	.60	185	8,000	346	143	331	179	1,120	1,240	1,240	260	100
Min	.30	.40	14	71	78	73	122	142	477	284	65	26
Ac-ft	29	809	36,520	7,040	5,760	8,070	9,350	35,790	48,800	33,960	9,120	2,890
Cal yr 1966: Total	40,147.2			Mean 110	Max 8,000	Min .30	Ac-ft 79,630					
Wtr yr 1967: Total	99,890.5			Mean 274	Max 8,000	Min .30	Ac-ft 198,100					

11-2087.3. EAST FORK KAWEAH RIVER NEAR THREE RIVERS, CALIF.--Continued

Combined discharge, in cubic feet per second, of East Fork Kaweah River and East Fork Kaweah River No. 1 conduit near Three Rivers, Calif., water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	13	9.6	37	117	167	101	142	167	559	1,270	286	87
2	14	9.4	218	114	149	102	140	173	507	1,230	286	98
3	14	9.4	199	119	149	103	143	183	503	1,190	261	115
4	14	9.5	91	122	126	102	166	193	534	1,150	265	103
5	14	9.6	3,200	122	126	99	159	188	555	1,120	246	103
6	14	10	8,000	119	102	99	148	198	508	986	232	119
7	14	16	1,500	117	135	100	204	245	571	886	206	102
8	12	35	550	116	135	100	178	352	625	706	215	188
9	11	21	400	100	134	101	178	431	660	591	215	84
10	10	16	360	97	142	101	176	413	691	552	183	78
11	10	16	320	99	149	107	190	337	734	541	172	73
12	10	16	300	114	149	148	182	296	724	552	169	67
13	10	14	291	97	149	192	188	279	679	534	170	67
14	12	14	254	97	149	172	192	308	668	496	172	64
15	10	14	249	95	130	157	194	413	710	481	186	63
16	10	16	225	97	129	358	183	559	750	448	183	64
17	10	16	225	97	126	296	180	696	721	428	158	55
18	10	14	201	95	124	242	200	836	886	406	158	55
19	10	13	201	95	121	207	195	926	926	388	143	77
20	10	71	176	95	113	185	188	1,040	896	382	140	63
21	10	30	168	370	111	180	188	1,080	1,150	361	126	57
22	10	23	157	369	109	179	190	1,100	1,210	341	118	55
23	10	18	157	128	105	180	192	1,150	1,180	328	116	55
24	10	16	153	119	103	170	203	1,150	1,200	328	146	64
25	9.9	15	143	165	121	158	183	1,110	1,150	324	149	63
26	9.9	16	143	116	109	148	193	1,040	1,210	310	148	55
27	9.9	16	132	119	109	146	198	965	1,180	295	148	55
28	10	205	125	121	103	141	192	835	1,200	355	111	52
29	9.9	133	122	146	-----	155	190	802	1,250	341	103	67
30	9.6	47	119	147	-----	145	169	741	1,270	317	100	64
31	9.7	-----	85	222	-----	156	-----	657	-----	312	89	-----
Total	340.9	868.5	18,501	4,146	3,574	4,830	5,424	18,863	25,407	17,949	5,400	2,212
Mean	11.0	29.0	597	134	128	156	181	608	847	579	174	73.7
Max	14	205	8,000	370	167	358	204	1,150	1,270	1,270	286	119
Min	9.6	9.4	37	95	102	99	140	167	503	310	89	52
Ac-ft	676	1,720	36,700	8,220	7,090	9,580	10,760	37,410	50,390	35,600	10,710	4,390

Cal yr 1966: Total 45,622.4 Mean 125 Max 8,000 Min 9.4 Ac-ft 90,490
Wtr yr 1967: Total 107,515.4 Mean 295 Max 8,000 Min 9.4 Ac-ft 213,300

TULARE LAKE BASIN

11-2099. KAWEAH RIVER AT THREE RIVERS, CALIF.

LOCATION.--Lat 36°26'38", long 118°54'09", in SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.13, T.17 S., R.28 E., on right bank opposite school-house in Three Rivers, 0.25 mile downstream from North Fork Kaweah River.

DRAINAGE AREA.--418 sq mi.

RECORDS AVAILABLE.--October 1958 to September 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is 809.62 ft above mean sea level, datum of 1929.

AVERAGE DISCHARGE.--9 years, 453 cfs (328,000 acre-ft per year).

EXTREMES.--Maximum discharge during year, 73,000 cfs Dec. 5 (gage heights, 16.69 ft in gage well, 19.0 ft from floodmarks), from rating curve extended above 13,000 cfs as explained below; minimum, 21 cfs Oct. 25-27.
1958-67: Maximum discharge, 73,000 cfs Dec. 5, 1966 (gage heights, 16.69 ft in gage well, 19.0 ft from floodmarks), from rating curve extended above 13,000 cfs on basis of slope-area measurements at gage heights 13.68 and 16.69 ft; minimum, 14 cfs Sept. 9, 10, 1959, Oct. 16, 1961.
Flood of Dec. 23, 1955, reached a stage of 17.9 ft, from floodmarks.

REMARKS.--Records good. Diversions of 200 acres above station. Power is developed on Middle and East Forks. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	24	22	263	445	903	501	934	1,150	2,320	3,320	954	265
2	25	22	494	436	793	512	940	1,180	2,110	3,300	903	325
3	27	22	1,910	424	735	520	903	1,180	2,070	3,500	383	350
4	23	22	472	411	695	512	1,040	1,330	2,220	3,300	833	389
5	25	22	16,600	405	685	477	1,110	1,310	2,300	2,970	793	473
6	27	24	37,100	397	675	477	1,020	1,300	2,150	2,710	745	323
7	29	46	7,010	385	670	467	1,490	1,550	2,360	2,600	656	272
8	27	83	2,650	380	660	470	1,280	2,000	2,550	2,420	591	243
9	24	86	1,900	372	651	470	1,190	2,320	2,570	2,210	545	231
10	22	64	1,560	370	675	474	1,160	2,460	2,620	2,040	573	214
11	22	53	1,360	363	705	499	1,460	1,970	2,550	1,980	587	198
12	23	43	1,200	362	700	733	1,320	1,750	2,580	2,070	568	183
13	24	47	1,090	360	710	1,170	1,270	1,620	2,420	2,110	553	182
14	24	44	1,000	360	705	1,040	1,280	1,700	2,360	1,940	556	175
15	23	44	920	354	633	821	1,360	2,050	2,420	1,900	545	172
16	23	46	863	357	603	2,280	1,270	2,600	2,700	1,870	531	170
17	23	53	815	357	579	2,160	1,240	3,020	2,660	1,750	520	163
18	22	51	766	344	571	1,630	1,480	3,360	2,890	1,620	452	195
19	22	46	730	337	575	1,360	1,490	3,600	3,110	1,530	436	303
20	22	301	695	330	553	1,210	1,530	3,300	2,970	1,480	385	217
21	22	259	665	753	533	1,160	1,480	4,150	3,400	1,390	374	180
22	22	143	624	781	531	1,150	1,580	4,500	3,600	1,340	360	175
23	22	120	599	607	523	1,130	1,440	4,520	3,380	1,240	337	174
24	22	95	571	929	508	1,050	1,630	4,450	3,400	1,260	480	174
25	21	83	549	863	568	961	1,420	4,180	3,580	1,310	501	177
26	21	75	531	710	520	903	1,370	3,380	3,540	1,250	467	173
27	21	72	505	695	516	863	1,380	3,600	3,460	1,110	352	171
28	22	1,170	481	642	501	901	1,350	3,380	3,500	1,070	313	170
29	22	1,210	474	665	- - - -	961	1,380	3,110	3,700	1,240	279	180
30	22	433	467	1,110	- - - -	957	1,320	2,390	3,920	1,120	263	223
31	22	- - - -	453	1,440	- - - -	954	- - - -	2,700	- - - -	1,050	259	- - - -
Total	725	4,811	85,327	16,749	17,596	28,673	39,022	82,610	85,420	61,000	16,544	6,856
Mean	23.4	160	2,752	540	632	925	1,301	2,665	2,847	1,963	537	229
Max	23	1,210	37,100	1,440	908	2,280	1,630	4,520	3,320	3,820	954	473
Min	21	22	263	330	501	467	903	1,150	2,070	1,050	259	163
Ac-ft	1,440	9,540	169,200	33,220	35,100	56,380	77,400	163,900	169,400	121,000	33,010	13,600

Cal yr 1966: Total 187,209 Mean 513 Max 37,100 Min 21 Ac-ft 371,300
Wtr yr 1967: Total 445,533 Mean 1,221 Max 37,100 Min 21 Ac-ft 883,700

Peak discharge (base, 1,800 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-28	1930	8.16	5,200	4-21	2330	6.43	1,950
12-03	0200	8.13	5,120	5-10	0300	6.96	2,860
12-05	2300	16.69	73,000	5-22	2200	8.02	5,220
1-30	2330	6.86	2,460	7-01	2200	7.80	4,580
3-16	1630	7.83	4,380				

TULARE LAKE BASIN

585

11-2101. SOUTH FORK KAWEAH RIVER AT THREE RIVERS, CALIF.

LOCATION.--Lat 36°25'00", long 118°54'48", in SE¼ sec.26, T.17 S., R.28 E., on right bank 200 ft upstream from unnamed tributary, 0.5 mile upstream from mouth, and 1.8 miles southwest of Three Rivers.

DRAINAGE AREA.--86.7 sq mi.

RECORDS AVAILABLE.--October 1958 to September 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is 807.22 ft above mean sea level, datum of 1929.

AVERAGE DISCHARGE.--9 years, 56.5 cfs (40,900 acre-ft per year).

EXTREMES.--Maximum discharge during year, 11,600 cfs Dec. 6 (gage heights, 9.30 ft in gage well, 10.4 ft from floodmarks), from rating curve extended above 2,000 cfs as explained below; minimum daily, 0.10 cfs Oct. 2-10.

1958-67: Maximum discharge, 11,600 cfs Dec. 6, 1966 (gage heights, 9.30 ft in gage well, 10.4 ft from floodmarks), from rating curve extended above 2,000 cfs on basis of slope-area measurement of maximum flow; no flow at times in 1960-62.

Flood in December 1955 reached a stage of 9.5 ft from floodmarks (discharge, 10,000 cfs).

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

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.20	0.50	24	51	107	42	94	193	279	595	56	11
2	.10	.50	28	50	92	42	92	193	245	565	50	13
3	.10	.50	174	48	84	42	89	193	254	540	45	17
4	.10	.50	46	47	78	42	123	208	284	535	41	17
5	.10	.60	1,610	47	75	41	145	212	303	455	39	15
6	.10	.80	7,760	45	72	41	126	208	276	420	35	13
7	.10	1.4	1,480	42	69	40	263	237	322	383	33	11
8	.10	10	600	41	66	38	215	293	351	344	30	11
9	.10	9.6	400	40	65	38	179	344	366	316	29	11
10	.10	6.2	260	39	65	41	176	347	375	287	27	11
11	.20	5.3	200	39	65	45	274	279	387	284	26	11
12	.20	4.4	172	39	65	65	222	240	375	284	25	10
13	.40	4.4	150	39	63	122	210	220	344	279	22	9.6
14	.60	4.4	136	38	66	154	212	217	354	251	22	9.1
15	.60	4.4	126	38	59	100	220	259	366	232	24	8.6
16	.60	4.4	118	38	58	194	200	322	383	220	22	8.2
17	.60	4.8	104	38	54	262	191	371	347	208	20	8.2
18	.60	4.4	97	37	54	203	267	405	392	193	24	16
19	.60	4.0	90	37	52	155	259	435	430	179	20	21
20	.50	14	87	37	51	134	251	445	383	164	18	15
21	.40	19	82	55	48	126	249	495	535	148	17	12
22	.40	13	76	69	48	124	280	520	555	136	16	11
23	.40	10	72	59	47	122	255	510	520	122	15	11
24	.40	8.1	69	107	45	116	312	500	520	114	17	11
25	.40	6.6	66	105	54	105	248	500	550	107	19	17
26	.40	6.6	66	76	48	97	232	485	540	98	21	15
27	.40	6.2	58	74	47	92	224	450	550	87	19	13
28	.50	37	58	69	45	90	217	379	550	81	16	11
29	.50	107	56	74	---	104	224	366	600	80	14	12
30	.60	36	55	123	---	90	193	362	612	72	13	16
31	.60	---	51	146	---	100	---	329	---	65	11	---
Total	11.00	334.6	14,371	1,787	1,742	3,007	6,242	10,517	12,348	7,844	784	375.7
Mean	0.35	11.2	464	57.6	62.2	97.0	208	339	412	253	25.3	12.5
Max	0.60	107	7,760	146	107	262	312	520	612	595	56	21
Min	0.10	0.50	24	37	45	38	89	193	245	65	11	8.2
Ac-ft	22	664	28,500	3,540	3,460	5,960	12,380	20,860	24,490	15,560	1,560	745

Cal yr 1966: Total 26,019.6 Mean 71.3 Max 7,760 Min 0.10 Ac-ft 51,610
Wtr yr 1967: Total 59,363.3 Mean 163 Max 7,760 Min 0.10 Ac-ft 117,700

Peak discharge (base, 500 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-06	1400	9.30	11,600	6-29	2200	4.22	949
5-21	2230	3.80	624				

TULARE LAKE BASIN

11-2108.5. LEMONCOVE DITCH BELOW TERMINUS DAM, CALIF.

LOCATION.--Lat 36°24'55", long 119°00'22", in SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.25, T.17 S., R.27 E., on left bank 250 ft downstream from outlet tunnel of Terminus Dam and 2.4 miles northeast of Lemnecove.

RECORDS AVAILABLE.--June 1962 to September 1967.

GAGE.--Digital water-stage recorder and Parshall flume. Datum of gage is 546.3 ft above mean sea level (levels by Corps of Engineers). Prior to Oct. 1, 1964, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--5 years, 5.01 cfs (3,630 acre-ft per year).

EXTREMES.--1962-67: Maximum daily discharge, 8.4 cfs Sept. 16, 1963, Oct. 24-27, 1964; no flow June 1-3, 23, 1962.

REMARKS.--Records excellent. Ditch receives water from Lake Kaweah (see sta. no. 2109) which is used for irrigation. At times up to 3 cfs is diverted 200 ft upstream into Doffelmyer ditch for irrigation.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	8.2	7.0	1.1	1.1	1.2	1.0	1.3	1.1	8.0	8.1	8.1	8.2
2	8.2	7.0	1.1	1.1	1.1	1.0	1.3	1.1	8.0	8.1	8.1	8.2
3	8.1	7.0	1.1	1.1	1.0	1.0	1.3	1.1	8.0	8.1	8.1	8.2
4	8.1	7.0	1.0	1.1	1.0	1.1	1.3	1.1	8.0	8.1	8.1	8.2
5	8.1	7.0	1.0	1.0	1.1	1.1	1.3	1.1	8.0	8.1	8.1	8.2
6	8.1	7.0	1.2	1.0	1.2	1.2	1.4	1.1	8.0	8.1	8.1	8.1
7	8.1	7.0	1.2	1.0	1.2	1.2	1.2	1.2	8.1	8.1	8.1	8.1
8	8.1	7.0	1.1	1.0	1.2	1.0	1.3	1.2	8.1	8.1	8.1	8.1
9	8.1	7.0	1.0	1.0	1.2	1.2	1.4	1.2	8.1	8.1	8.1	8.1
10	8.1	7.0	1.2	1.0	1.2	1.2	1.3	1.2	8.1	8.1	8.1	8.1
11	8.1	6.4	1.1	1.1	1.2	1.0	1.1	1.2	8.1	8.1	8.1	8.2
12	8.1	5.3	1.1	1.1	1.1	1.1	1.0	1.2	8.1	8.1	8.1	8.1
13	8.1	5.0	1.1	1.1	1.0	1.1	1.0	1.2	8.1	8.1	8.1	8.1
14	8.0	5.0	1.0	1.1	1.0	1.1	1.0	1.2	8.1	8.1	8.2	8.1
15	7.0	5.0	1.0	1.1	1.1	1.1	1.0	1.9	8.1	8.1	8.2	8.1
16	7.0	5.1	1.2	1.1	1.1	1.1	1.0	2.0	8.1	8.1	8.1	8.1
17	7.8	5.1	1.2	1.0	1.0	1.1	1.0	2.0	8.1	8.1	8.2	8.1
18	8.1	5.1	1.1	1.2	1.0	1.0	1.0	4.1	8.1	8.1	8.2	6.3
19	8.1	5.1	1.1	1.2	1.0	1.1	1.0	5.2	8.1	8.1	8.2	5.0
20	8.1	5.1	1.1	1.1	1.2	1.0	1.0	5.9	8.1	8.1	8.1	5.0
21	8.1	2.7	1.1	1.1	1.1	1.2	1.1	6.3	8.1	8.1	8.1	5.0
22	7.3	.90	1.1	1.1	1.0	1.2	1.1	6.9	8.1	8.1	8.1	5.0
23	7.0	1.1	1.1	1.0	1.0	1.1	1.1	7.8	8.1	8.1	8.1	4.9
24	7.0	1.1	1.1	1.0	1.0	1.1	1.1	8.1	8.1	8.1	8.1	4.9
25	7.0	1.1	1.1	1.0	1.0	1.0	1.1	8.1	8.1	8.1	8.1	5.0
26	7.0	1.1	1.1	1.0	1.0	1.0	1.1	8.1	8.1	8.1	8.1	5.0
27	7.1	1.1	1.1	1.0	1.0	1.1	1.0	8.0	8.1	8.1	8.1	5.0
28	7.0	1.1	1.0	1.0	1.0	1.1	1.0	8.0	8.1	8.1	8.1	7.0
29	7.0	1.1	1.0	1.0	-----	1.0	1.0	8.0	8.1	8.1	8.1	8.1
30	7.0	1.1	1.1	1.0	-----	1.1	1.1	8.0	8.1	8.1	8.1	8.1
31	7.0	-----	1.1	1.0	-----	1.2	-----	8.0	-----	8.1	8.2	-----
TOTAL	238.1	134.60	33.9	32.7	30.2	33.8	33.9	122.6	242.4	251.1	251.7	212.6
MEAN	7.68	4.49	1.09	1.05	1.08	1.09	1.13	3.95	8.08	8.10	8.12	7.09
MAX	8.2	7.0	1.2	1.2	1.2	1.2	1.4	8.1	8.1	9.1	8.2	8.2
MIN	7.0	.90	1.0	1.0	1.0	1.0	1.0	1.1	8.0	8.1	8.1	4.9
AC-FT	472	267	67	65	60	67	67	243	481	498	499	422

CAL YR 1966: TOTAL 2,042.60 MEAN 5.60 MAX 8.3 MIN .90 AC-FT 4,050
WAT YR 1967: TOTAL 1,617.60 MEAN 4.43 MAX 8.2 MIN .90 AC-FT 3,210

TULARE LAKE BASIN

587

11-2109. LAKE KAWEAH NEAR LEMONCOVE, CALIF.

LOCATION.--Lat 36°24'53", long 119°00'07", in SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.25, T.17 S., R.27 E., in control tower near left abutment of Terminus Dam on Kaweah River, 2.1 miles northeast of Lemoncove.

DRAINAGE AREA.--560 sq mi.

RECORDS AVAILABLE.--October 1961 to September 1967. Fragmentary prior to March 1962. Prior to October 1962, published as Terminus Reservoir near Lemoncove.

GAGE.--Graphic water-stage recorder. Datum of gage is at mean sea level, datum of 1929 (levels by Corps of Engineers). Prior to May 22, 1962, staff gage at same site and datum.

EXTREMES.--Maximum contents during year, 160,200 acre-ft July 3, 4 (elevation, 699.39 ft); minimum, 6,300 acre-ft Nov. 5 (elevation, 564.38 ft).

1961-67: Maximum contents, 160,200 acre-ft July 3, 4, 1967 (elevation, 699.39 ft); minimum since initial season of operation, 2,870 acre-ft Oct. 11-13, 1962; minimum elevation, 549.62 ft Oct. 13, 1962.

REMARKS.--Reservoir is formed by earth-fill dam and earth-fill auxiliary dam; completed and storage began in February 1962. Usable capacity, 149,400 acre-ft between elevations 520.0 (invert of outlet structure) and 694.0 ft (spillway crest). Dead storage, 166 acre-ft. Spillway design flood pool elevation, 745.1 ft (capacity, 266,000 acre-ft). Records, including extremes, represent total contents at 2400 hours.

COOPERATION.--Records furnished by Corps of Engineers.

CAPACITY TABLE (ELEVATION, IN FEET, AND CONTENTS, IN ACRE-FT)

520	166	580	12,000
525	343	600	22,800
530	598	620	39,400
535	953	640	61,700
540	1,460	660	89,800
550	2,940	680	123,400
560	5,090	700	161,500
570	8,110	720	204,300

Contents, in acre-feet, at 2400 hours, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6,440	6,320	7,350	58,900	14,500	8,590	14,900	80,300	103,600	159,500	144,300	70,700
2	6,440	6,320	8,100	57,000	14,800	8,570	14,900	80,200	103,600	160,100	142,300	68,700
3	6,440	6,320	10,500	55,100	15,000	8,550	16,000	79,800	103,700	160,200	140,300	66,900
4	6,430	6,310	8,800	53,100	15,100	8,420	18,300	79,200	104,300	160,200	138,200	65,100
5	6,430	6,300	35,800	51,200	15,200	8,180	21,000	78,100	105,200	159,800	136,000	63,500
6	6,430	6,310	139,100	49,200	15,100	8,090	23,200	76,800	105,700	159,000	133,700	61,700
7	6,430	6,330	147,200	47,200	15,100	8,050	27,200	76,000	106,800	158,200	131,200	59,900
8	6,430	6,440	144,700	45,100	14,900	8,050	30,500	75,800	108,400	157,500	128,900	58,000
9	6,420	6,600	142,500	43,100	14,700	8,050	33,300	75,800	110,100	156,700	126,400	56,200
10	6,420	6,680	140,100	41,100	14,500	8,060	36,100	76,000	112,600	155,900	124,000	54,300
11	6,410	6,760	136,800	38,900	14,400	8,150	40,200	74,700	115,500	155,800	121,600	52,300
12	6,410	6,830	131,800	36,800	14,300	8,710	43,400	72,800	118,200	156,200	119,200	50,200
13	6,400	6,870	126,400	34,600	14,200	9,910	46,400	70,400	120,300	157,300	116,900	47,800
14	6,400	6,920	120,800	32,400	13,900	10,500	49,300	68,200	122,200	158,100	114,600	45,500
15	6,390	6,970	114,900	30,200	13,200	10,100	52,400	66,800	124,200	158,800	112,300	43,200
16	6,390	7,030	108,900	27,900	12,500	13,100	55,000	66,700	126,400	159,300	110,000	41,100
17	6,390	7,100	102,500	25,700	11,600	16,100	56,500	67,900	128,200	159,600	107,600	39,200
18	6,380	7,140	96,000	23,500	10,800	16,600	59,000	69,800	130,500	159,500	105,100	37,600
19	6,380	7,160	89,500	21,200	10,000	16,200	61,400	72,000	133,400	159,300	102,500	36,200
20	6,380	7,610	82,800	18,900	9,600	16,000	63,700	74,600	135,700	159,100	99,700	34,700
21	6,380	8,100	78,600	17,500	9,320	16,100	65,700	78,000	139,400	158,600	97,000	33,200
22	6,370	8,160	76,600	16,200	9,020	16,200	68,400	82,000	143,200	158,000	94,300	31,800
23	6,370	8,130	74,600	14,300	8,840	16,300	70,500	86,100	145,900	157,200	91,600	30,500
24	6,360	8,010	73,000	13,800	8,690	16,300	73,500	89,900	148,000	156,400	89,100	29,100
25	6,360	7,980	71,400	13,400	8,750	16,100	75,400	93,300	149,900	155,400	86,700	27,800
26	6,350	7,980	69,800	12,100	8,740	15,700	76,300	96,200	151,700	154,100	84,300	26,800
27	6,350	7,970	67,900	10,800	8,690	15,400	78,000	98,400	153,400	152,400	81,900	25,900
28	6,340	9,670	66,200	10,200	8,640	15,200	78,900	100,200	154,900	150,800	79,600	25,100
29	6,340	10,500	64,500	10,100	-----	15,200	79,800	101,500	156,700	149,400	77,400	24,400
30	6,330	8,690	62,300	11,200	-----	14,900	80,200	102,600	158,500	147,900	75,100	23,800
31	6,330	-----	60,800	13,800	-----	14,900	-----	103,300	-----	146,200	72,900	-----
(+)	564.47	571.67	639.32	583.88	571.52	586.27	653.68	668.38	698.51	692.22	648.53	601.55
(+)	-1.20	+2.360	+52.100	-47.000	-5.160	+6.260	+65.300	+23.100	+55.200	-12.300	-73.300	-49.100
(++)	1.63	81	100	81	51	79	204	621	1,132	1,779	1,620	676
Max	6,440	10,500	147,200	58,900	15,200	16,600	80,200	103,300	158,500	160,200	144,300	70,700
Min	6,330	6,300	7,350	10,100	8,640	8,050	14,900	66,700	103,600	146,200	72,900	23,800

Calendar year 1966..... + 51,700 Max 147,200 Min 6,300
 Water year 1966-67..... + 17,400 Max 160,200 Min 6,300

+ Elevation, in feet, at end of month.

+ Change in contents, in acre-feet.

++ Evaporation, in acre-feet.

TULARE LAKE BASIN

11-2109.3. FOOTHILL DITCH BELOW TERMINUS DAM, CALIF.

LOCATION.--Lat 36°24'48", long 119°00'47", in NE $\frac{1}{4}$ sec.35, T.17 S., R.27 E., on left bank 0.7 mile downstream from Terminus Dam and 2.1 miles northeast of Lemnecove.

RECORDS AVAILABLE.--October 1961 to September 1967.

GAGE.--Digital water-stage recorder and Parshall flume. Datum of gage is 492.8 ft above mean sea level (levels by Corps of Engineers). October 1961 to Oct. 1, 1964, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--6 years, 18.2 cfs (13,180 acre-ft per year).

EXTREMES.--1961-67: Maximum daily discharge, 50 cfs Feb. 10, 1962; minimum daily, 1.0 cfs Feb. 1-2, 1962.

REMARKS.--Records good. Ditch receives water from Lake Kaweah (see sta. no. 2109) which is used for irrigation.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	17	16	27	2.4	2.1	2.0	13	20	22	18	23	22
2	17	16	26	2.4	2.1	2.0	13	19	22	18	23	22
3	17	15	28	2.4	2.1	2.0	13	19	21	18	23	22
4	17	16	29	2.5	2.1	2.1	15	19	21	17	23	22
5	17	16	15	2.5	2.1	2.0	14	20	21	18	23	22
6	17	16	3.8	2.5	2.1	1.7	16	19	20	18	23	22
7	17	17	3.9	2.5	2.2	1.7	16	19	20	17	23	22
8	17	18	3.2	2.5	2.2	1.8	9.4	20	20	17	23	22
9	17	18	2.9	2.5	2.2	1.8	4.6	20	19	17	23	22
10	17	17	2.8	2.5	1.9	1.8	3.5	20	19	21	23	22
11	16	17	2.8	2.5	1.8	1.8	10	20	19	23	23	22
12	14	17	2.8	2.5	1.7	1.7	6.0	20	18	23	23	22
13	14	17	2.8	2.4	1.5	1.7	4.5	20	19	22	23	22
14	14	18	2.5	2.4	1.6	1.9	4.2	20	19	22	23	22
15	15	17	2.5	2.4	1.6	2.1	12	20	19	22	23	22
16	14	17	2.5	2.4	1.8	1.9	15	20	19	22	23	22
17	14	17	2.5	2.4	1.8	1.7	18	20	19	22	23	22
18	13	18	2.5	2.5	1.7	1.9	18	20	19	22	23	22
19	14	18	2.5	2.5	1.6	2.1	17	20	19	22	23	22
20	15	18	2.5	2.4	1.5	2.2	18	20	19	22	23	22
21	15	19	2.5	2.4	1.4	2.2	18	20	19	22	23	21
22	16	21	2.5	2.4	1.3	2.2	18	20	18	22	23	21
23	17	22	2.2	2.4	1.5	2.2	18	21	18	22	22	21
24	16	22	2.2	2.4	1.5	2.2	18	20	18	22	22	21
25	17	21	2.2	2.4	1.5	7.6	18	21	18	22	22	21
26	17	19	2.2	2.2	1.5	10	18	20	18	23	22	20
27	17	20	2.2	2.5	1.5	9.9	19	20	18	23	22	20
28	17	19	2.2	2.6	1.5	10	19	20	18	23	22	20
29	16	26	2.2	2.4	-----	11	19	20	18	23	22	20
30	16	30	2.2	2.4	-----	12	19	19	18	23	22	20
31	16	-----	2.4	2.1	-----	13	-----	19	-----	23	22	-----
TOTAL	493	558	192.5	75.3	49.4	120.2	424.2	615	575	649	704	645
MEAN	15.9	18.6	6.21	2.43	1.76	3.88	14.1	19.8	19.2	20.9	22.7	21.5
MAX	17	30	29	2.6	2.2	13	19	21	22	23	23	22
MIN	13	15	2.2	2.1	1.3	1.7	3.5	19	18	17	22	20
AC-FT	978	1,110	382	149	98	238	841	1,220	1,140	1,290	1,400	1,280

CAL YR 1966: TOTAL 7,336.5 MEAN 20.1 MAX 30 MIN 2.2 AC-FT 14,550
WAT YR 1967: TOTAL 5,100.6 MEAN 14.0 MAX 30 MIN 1.3 AC-FT 10,120

11-2109.5. KAWEAH RIVER BELOW TERMINUS DAM, CALIF.

LOCATION.--Lat 36°24'51", long 119°00'42", in SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.26, T.17 S., R.27 E., on left bank 0.6 mile downstream from Terminus Dam and 2.2 miles northeast of Lemoncove.

DRAINAGE AREA.--561 sq mi.

RECORDS AVAILABLE.--October 1961 to September 1967.

GAGE.--Digital water-stage recorder and concrete control. Datum of gage is 495.90 ft above mean sea level, datum of 1929 (levels by Corps of Engineers). Prior to Oct. 1, 1964, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--6 years, 661 cfs (478,500 acre-ft per year), adjusted for change in contents, evaporation, and diversion.

EXTREMES.--Maximum discharge during year, 5,740 cfs Dec. 8 (gage height, 8.62 ft); no flow for many days.
1961-67: Maximum discharge, 5,740 cfs Dec. 8, 1966 (gage height, 8.62 ft); no flow at times in most years.

REMARKS.--Records excellent. Flow regulated by Lake Kaweah (see sta. no. 2109). Lemoncove ditch (see sta. no. 2108.5) diverts water from Lake Kaweah for irrigation. Foothill ditch (see sta. no. 2109.3) diverts water from the gage pool for irrigation. Doffelmyer ditch diverts up to 3 cfs above the station for irrigation; at times some of this water is returned to the river above the station. Records of chemical analyses for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.		
1	0	0	651	1,420	716	551	1,010	1,270	2,380	3,500	1,960	1,380		
2	0	0	198	1,420	719	551	994	1,370	2,240	4,040	1,940	1,300		
3	0	0	877	1,440	724	556	500	1,460	2,170	4,020	1,910	1,270		
4	0	0	1,300	1,420	725	598	107	1,760	2,130	3,680	1,910	1,270		
5	0	0	1,310	1,400	725	616	23	2,000	2,060	3,680	1,910	1,250		
6	0	0	1,150	1,400	739	562	46	2,040	2,040	3,570	1,910	1,220		
7	0	.60	4,920	1,400	747	524	37	2,050	2,020	3,510	1,870	1,200		
8	0	4.3	5,320	1,400	786	515	0	2,310	2,000	3,130	1,800	1,160		
9	0	2.8	3,590	1,400	804	510	0	2,580	1,980	2,880	1,780	1,160		
10	0	.40	3,120	1,410	803	505	0	2,720	1,620	2,620	1,810	1,160		
11	0	-0	3,200	1,440	805	505	0	2,770	1,500	2,310	1,800	1,160		
12	0	.50	3,870	1,440	802	524	0	2,850	1,550	2,070	1,750	1,270		
13	0	2.6	4,010	1,460	803	825	0	2,890	1,620	1,830	1,740	1,330		
14	0	1.8	4,000	1,460	908	1,030	0	2,880	1,700	1,750	1,710	1,330		
15	0	.50	4,010	1,430	978	1,200	110	2,890	1,760	1,760	1,700	1,320		
16	0	.20	4,020	1,460	992	1,260	115	2,890	1,860	1,770	1,690	1,180		
17	0	.20	4,180	1,440	1,040	1,410	537	2,820	1,980	1,770	1,710	1,120		
18	0	9.6	4,200	1,410	983	1,750	694	2,790	2,000	1,780	1,720	1,070		
19	0	15	4,200	1,440	930	1,810	589	2,950	2,010	1,730	1,740	1,000		
20	0	20	4,210	1,480	791	1,520	680	3,050	2,020	1,710	1,750	942		
21	0	51	2,950	1,490	696	1,340	743	3,070	2,020	1,720	1,730	898		
22	0	103	1,650	1,520	697	1,320	653	3,090	2,100	1,720	1,710	839		
23	0	128	1,700	1,520	638	1,270	640	3,130	2,380	1,720	1,700	819		
24	0	128	1,420	1,350	600	1,240	621	3,150	2,820	1,720	1,700	818		
25	0	86	1,410	1,230	579	1,230	652	3,020	3,020	1,840	1,670	799		
26	0	53	1,400	1,380	558	1,210	882	2,960	3,060	1,590	1,620	657		
27	0	59	1,460	1,390	570	1,120	1,030	2,950	3,080	1,980	1,560	563		
28	0	51	1,410	1,030	559	1,120	1,110	2,950	3,140	1,570	1,450	513		
29	0	828	1,370	788	-----	1,140	1,150	2,870	3,230	1,980	1,390	495		
30	0	1,290	1,400	718	-----	1,130	1,150	2,780	3,470	1,980	1,380	499		
31	0	-----	1,420	595	-----	1,080	-----	2,690	-----	1,560	1,380	-----		
TOTAL	0	2,835.50	79,926	41,581	21,417	30,522	14,073	81,000	66,960	74,290	53,400	30,992		
MEAN	0	94.5	2,578	1,341	765	985	469	2,613	2,232	2,396	1,723	1,033		
MAX	0	1,290	5,320	1,520	1,040	1,810	1,150	3,150	3,470	4,040	1,960	1,380		
MIN	0	0	198	595	558	505	0	1,270	1,500	1,710	1,380	495		
AC-FT	0	5,620	158,500	82,470	42,480	60,540	27,910	160,700	132,800	147,400	105,900	61,470		
Mean †	24.4	159	3,435	580	576	1,093	1,586	3,023	3,205	2,254	588	243		
Ac-ft†	1,500	9,440	211,200	35,530	37,570	67,190	94,340	185,900	190,700	133,600	36,160	14,750		
Cal yr 1966:	Total	180,535.60	Mean	495	Max	5,320	Min	0	Ac-ft	358,100	Mean †	596	Ac-ft †	431,800
Wtr yr 1967:	Total	496,996.50	Mean	1,362	Max	5,320	Min	0	Ac-ft	985,800	Mean †	1,413	Ac-ft †	1,023,000

† Adjusted for diversion to Lemoncove ditch, Foothill ditch and change in contents and evaporation from Lake Kaweah.

TULARE LAKE BASIN

11-2113. DRY CREEK NEAR LEMONCOVE, CALIF.

LOCATION.--Lat 36°25'30", long 119°01'20", in NW¼NW¼ sec.26, T.17 S., R.27 E., on left bank 400 ft downstream from Pogue Canyon, 1.3 miles upstream from mouth, and 2.8 miles north of Lemoncove.

DRAINAGE AREA.--80.4 sq mi.

RECORDS AVAILABLE.--October 1959 to September 1967.

GAGE.--Graphic water-stage recorder. Altitude of gage is 515 ft (from topographic map).

AVERAGE DISCHARGE.--8 years, 14.9 cfs (10,790 acre-ft per year).

EXTREMES.--Maximum discharge during year, 14,500 cfs Dec. 6 (gage heights, 7.30 ft in gage well, 8.94 ft from floodmarks); no flow for several months.

1959-67: Maximum discharge, 14,500 cfs Dec. 6, 1966 (gage heights, 7.30 ft in gage well, 8.94 ft from floodmarks); no flow for several months each year.

REMARKS.--Records good. Small diversions above station for irrigation.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	8.5	72	16	89	173	53	13	19	
2			0	8.5	50	14	97	161	53	13	.80	
3			.70	3.5	42	14	84	149	53	13	.30	
4			1.2	8.5	37	14	95	149	53	13	0	
5			670	3.5	35	14	176	170	51	13	0	
6			6,370	3.5	32	13	139	144	51	11	0	
7			537	8.5	30	12	301	136	49	11	0	
8			115	8.5	28	12	247	139	49	11	0	
9			70	8.5	27	12	158	142	48	11	0	
10			48	8.5	27	11	139	170	46	11	0	
11			37	3.5	26	13	387	147	44	9.6	0	
12			31	8.5	24	62	239	129	44	9.6	0	
13			27	3.5	23	156	176	119	44	9.5	0	
14			22	7.4	24	126	161	117	43	9.2	0	
15			19	7.4	24	72	189	115	40	9.0	0	
16			17	7.4	23	162	193	115	37	8.8	0	
17			16	7.4	22	153	179	109	32	8.6	0	
18			14	6.4	21	86	326	106	31	8.0	0	
19			14	6.4	21	72	410	100	28	7.0	0	
20			14	6.4	19	67	385	97	27	6.4	0	
21			13	9.6	18	67	370	93	24	6.0	0	
22			12	36	17	65	440	86	23	5.6	0	
23			12	30	17	61	330	82	22	5.2	0	
24			11	102	17	60	425	76	22	4.7	0	
25			11	134	22	56	345	74	21	4.2	0	
26			11	61	26	56	285	72	18	3.8	0	
27			11	44	19	54	252	71	18	3.4	0	
28			9.6	37	17	54	222	69	17	3.0	0	
29			9.6	34	---	60	256	67	16	2.8	0	
30			9.6	70	---	56	207	65	14	2.7	0	
31		-----	8.5	168	---	80	---	63	-----	2.5	0	-----
Total	0	0	8,141.2	884.9	760	1,770	7,302	3,504	1,076	249.6	3.0	0
Mean	0	0	263	28.5	27.1	57.1	243	113	35.9	8.05	0.10	0
Max	0	0	6,370	168	72	162	440	173	58	13	1.9	0
Min	0	0	3.77	6.4	17	11	84	63	14	2.5	0	0
Ac-ft	0	0	16,150	1,760	1,510	3,510	14,480	6,950	2,130	495	6.0	0

Cal yr 1966 Total 8,323.2 Mean 24.2 Max 6,370 Min 0 Ac-ft 17,500
 Wtr yr 1967 Total 23,690.7 Mean 64.9 Max 6,370 Min 0 Ac-ft 46,990

Peak discharge (base, 50 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-06	0900	7.30	14,500	3-13	1000	3.58	243
1-22	1800	2.80	63	3-16	1900	3.88	390
1-24	2000	3.67	345	3-31	2400	3.15	111
1-31	0300	3.57	295	4-05	0100	3.67	285

Peak discharge (base, 50 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
4-07	1300	4.00	472	4-22	0400	4.12	556
4-11	0500	4.18	601	4-28	2400	3.77	340
4-15	1500	3.73	320				
4-18	1700	4.09	532				

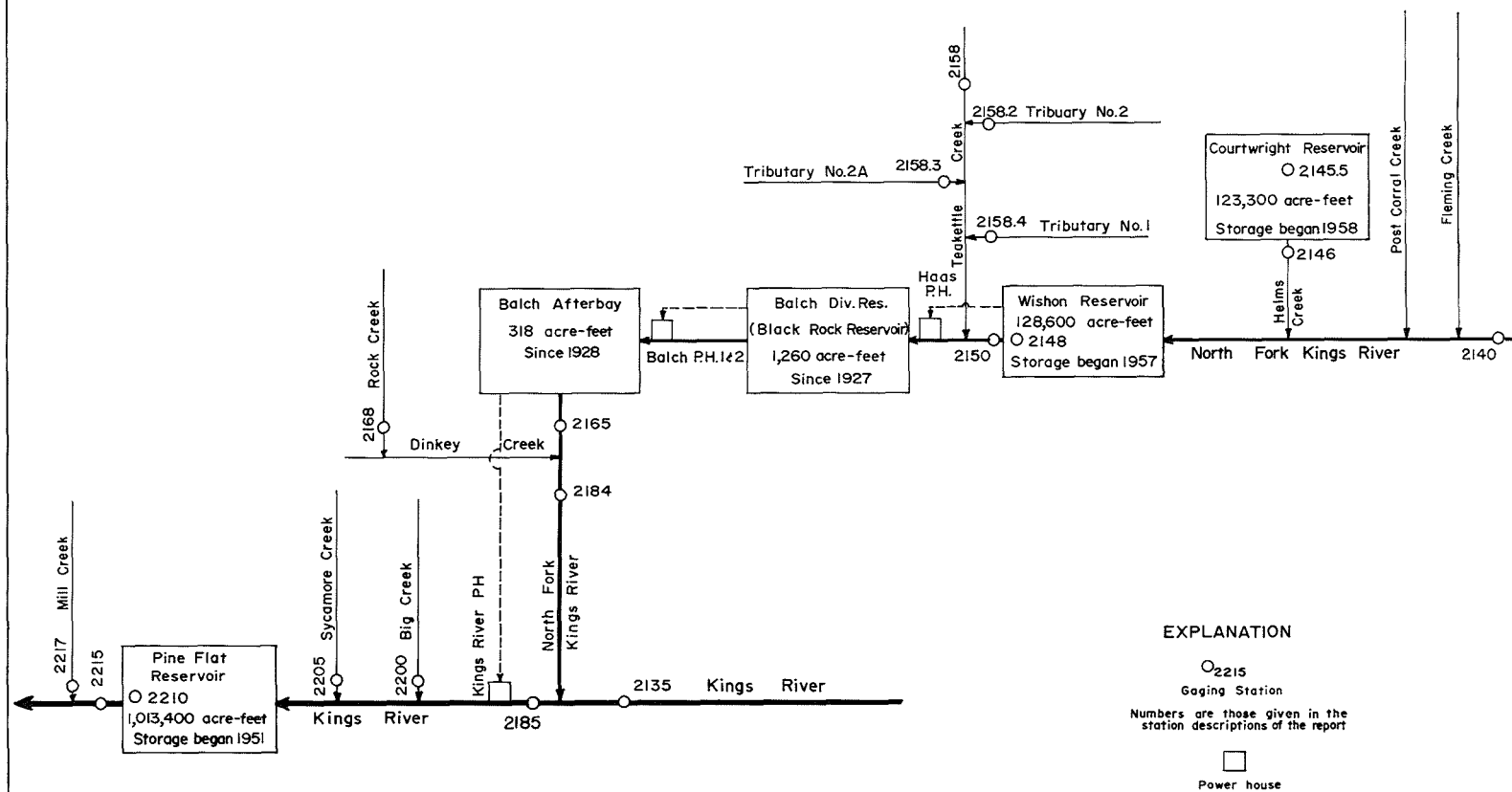


Figure 2.-- Schematic diagram showing diversions and storage in Kings River basin.

11-2135. KINGS RIVER ABOVE NORTH FORK, NEAR TRIMMER, CALIF.

LOCATION.--Lat 36°51'45", long 119°07'25", in NE¼ sec.27, T.12 S., R.26 E., on right bank at Rogers Crossing, 0.9 mile upstream from North Fork, 2.9 miles south of Balch Camp, and 9.6 miles southeast of Trimmer. Prior to Oct. 1, 1965, on left bank.

DRAINAGE AREA.--952 sq mi.

RECORDS AVAILABLE.--October 1926 to December 1928, October 1931 to September 1967. Prior to September 1965, published as Kings River above North Fork. Monthly figures only for some periods published in WSP 1315-A.

GAGE.--Graphic water-stage recorder. Datum of gage is 1,001.5 ft above mean sea level (river-profile survey). March 1927 to December 1928, at site 0.5 mile downstream at different datum. October 1931 to September 1965, on left bank at datum 2.00 ft higher.

AVERAGE DISCHARGE.--38 years, 1,414 cfs (1,024,000 acre-ft per year).

EXTREMES.--Maximum discharge during year, 41,000 cfs Dec. 6 (gage heights, 15.12 ft in gage well, 15.88 ft from floodmarks), from rating curve extended above 12,000 cfs as explained below; minimum daily, 100 cfs Nov. 2-5. 1926-28, 1931-67: Maximum discharge, 59,100 cfs Dec. 23, 1955 (gage height, 16.26 ft), from rating curve extended above 12,000 cfs on basis of slope-area measurement of maximum flow; minimum daily, 70 cfs Jan. 14, 1963.

REMARKS.--Records good. No diversion or regulation above station. See schematic diagram for Kings River basin. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	120	101	634	600	1,640	771	1,450	1,420	6,120	14,100	4,460	1,280
2	120	100	942	575	1,340	789	1,440	1,470	5,320	14,100	4,290	1,280
3	122	100	1,760	565	1,170	795	1,370	1,510	5,260	13,600	4,050	1,390
4	122	100	877	555	1,090	795	1,490	1,660	5,670	12,300	3,830	1,720
5	122	100	9,830	555	1,040	753	1,590	1,680	5,730	11,300	3,660	1,940
6	122	103	32,200	540	1,010	753	1,500	1,730	5,320	9,860	3,420	1,450
7	122	119	7,850	518	995	741	1,960	2,060	6,150	9,860	2,970	1,240
8	120	160	3,970	514	988	759	1,750	2,640	6,980	9,060	2,590	1,150
9	119	152	2,880	509	981	777	1,680	3,400	7,560	8,130	2,380	1,060
10	116	134	2,380	500	1,010	795	1,620	3,530	7,880	7,680	2,490	974
11	116	132	1,900	504	1,040	898	1,790	2,950	8,130	7,520	2,430	864
12	116	132	1,550	518	1,070	1,550	1,660	2,660	8,230	8,000	2,380	795
13	116	130	1,380	518	1,090	1,980	1,660	2,520	7,910	8,390	2,360	765
14	116	134	1,250	522	1,090	1,540	1,720	2,640	7,360	8,200	2,410	735
15	114	134	1,170	527	989	1,440	1,790	3,180	7,780	8,320	2,320	694
16	113	146	1,100	536	953	4,140	1,660	4,030	8,290	7,810	2,280	656
17	113	164	1,050	536	911	3,950	1,640	4,830	8,230	7,430	2,250	622
18	111	150	1,010	532	890	3,220	1,790	5,760	9,160	6,980	2,220	644
19	111	138	981	532	884	2,690	1,810	6,530	9,640	6,630	1,960	858
20	108	411	953	532	851	2,380	1,760	7,330	8,550	6,150	1,790	858
21	103	422	911	1,190	825	2,180	1,740	8,160	10,200	5,700	1,700	753
22	108	304	851	1,150	825	2,100	1,330	9,380	11,700	5,640	1,670	729
23	108	268	813	918	807	2,030	1,690	9,990	10,900	5,290	1,560	723
24	106	232	783	1,310	795	1,890	1,800	10,500	11,000	5,260	1,620	711
25	106	220	747	1,160	839	1,720	1,640	10,800	11,400	5,430	1,830	711
26	104	208	741	1,240	795	1,600	1,680	10,400	11,800	5,520	1,920	672
27	103	208	661	1,270	795	1,490	1,780	9,990	12,100	5,020	1,590	644
28	103	710	656	1,180	771	1,520	1,700	9,220	12,100	4,940	1,450	634
29	103	2,180	656	1,360	- - - - -	1,550	1,590	8,450	12,100	5,040	1,280	666
30	101	870	656	1,910	- - - - -	1,410	1,470	8,130	13,600	4,990	1,200	741
31	101	- - - - -	612	2,480	- - - - -	1,520	- - - - -	7,620	- - - - -	4,600	1,240	- - - - -
Total	3,490	8,462	83,754	25,856	27,482	50,526	50,050	166,170	262,170	242,850	73,600	27,959
Mean	113	282	2,702	834	982	1,630	1,668	5,360	8,739	7,834	2,374	932
Max	122	2,180	32,200	2,480	1,640	4,140	1,960	10,800	13,500	14,100	4,460	1,940
Min	101	100	612	500	771	741	1,370	1,420	5,260	4,600	1,200	622
Ac-ft	6,920	16,780	166,100	51,380	54,510	100,200	99,270	329,600	520,000	481,700	146,000	55,460

Cal yr 1966: Total 439,975 Mean 1,205 Max 32,200 Min 100 Ac-ft 872,700
 Wtr yr 1967: Total 1,022,369 Mean 2,801 Max 32,200 Min 100 Ac-ft 2,028,000

Peak discharge (base, 6,300 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-6	0900	15.12	41,000	5-25	0100	9.16	12,100
3-16	1700	7.53	6,760	7-03	0030	10.27	16,700

11-2140. NORTH FORK KINGS RIVER BELOW MEADOW BROOK, CALIF.

LOCATION.--Lat 37°04'53", long 118°51'43", in NE¼ sec.12, T.10 S., R.28 E., on left bank 800 ft downstream from Nichols Canyon, 0.6 mile downstream from Meadow Brook, 3.9 miles west of Blackcap Mountain, 5.9 miles east of Courtright Dam, and 23 miles southeast of town of Huntington Lake.

DRAINAGE AREA.--37.7 sq mi.

RECORDS AVAILABLE.--October 1921 to September 1935, October 1956 to September 1967. Monthly discharge only for some periods and yearly estimates for some incomplete years, published in WSP 1315-A. Records for Jan. 1-23, and Dec. 1-21, 1934, published in WSP 551 and 766, respectively, have been found to be unreliable and should not be used.

GAGE.--Graphic water-stage recorder. Datum of gage is 8,144.66 ft above mean sea level, unadjusted (levels by Pacific Gas and Electric Co.).

AVERAGE DISCHARGE.--25 years, 67.8 cfs (49,090 acre-ft per year).

EXTREMES.--Maximum discharge during year, 1,680 cfs July 2 (gage height, 5.62 ft), from rating curve extended above 800 cfs; minimum daily, 1.1 cfs Oct. 1, 18-21, 23.

1921-35, 1956-67: Maximum discharge, 1,680 cfs July 2, 1967 (gage height, 5.62 ft), from rating curve extended above 800 cfs; minimum recorded, 0.3 cfs Sept. 12-14, 1924.

Flood of Dec. 23, 1955, reached a stage of 5.85 ft, from floodmarks (discharge, 2,000 cfs).

REMARKS.--Records good except those for period of no gage-height record, which are fair. No regulation or diversion above station. See schematic diagram of Kings River basin.

COOPERATION.--Gage-height record and eight discharge measurements furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.1	1.5	1.0	16	36	35	31	26	245	1,100	175	33
2	1.2	1.5	25	16	30	38	26	25	222	1,080	157	81
3	1.4	1.5	55	16	25	40	25	26	257	994	148	144
4	1.3	1.5	15	16	24	38	24	30	269	924	135	105
5	1.2	1.5	150	16	25	37	26	30	238	752	125	82
6	1.4	1.5	350	16	26	35	24	35	232	745	116	57
7	1.4	2.0	150	16	29	36	25	54	322	697	98	46
8	1.3	3.0	100	15	33	36	26	92	412	585	82	41
9	1.2	2.0	60	15	34	37	28	116	453	536	72	34
10	1.2	1.5	50	15	34	36	28	88	480	510	68	29
11	1.5	1.5	45	16	35	37	28	72	490	525	68	25
12	1.5	2.0	40	16	36	39	27	66	495	541	66	23
13	1.4	2.5	40	16	34	42	26	70	458	658	64	21
14	1.3	2.5	35	16	30	48	30	92	435	633	88	20
15	1.2	2.5	35	16	29	132	30	144	422	591	92	20
16	1.2	3.5	30	16	27	329	29	205	510	536	76	18
17	1.2	3.0	28	16	26	122	29	260	597	458	73	18
18	1.1	3.0	27	15	26	71	29	303	652	422	62	21
19	1.1	3.0	26	15	30	51	28	354	627	408	51	22
20	1.1	20	25	15	30	43	27	394	639	366	46	18
21	1.1	11	24	25	26	40	27	458	860	346	51	16
22	1.2	7.0	23	20	28	40	27	530	773	326	57	15
23	1.1	5.0	22	20	29	40	27	609	710	300	49	15
24	1.2	4.5	21	20	27	35	26	671	745	300	62	17
25	1.2	4.0	20	20	27	34	28	627	796	304	98	20
26	1.2	3.5	20	20	30	30	26	615	812	286	80	17
27	1.2	4.0	19	20	30	28	30	546	860	248	56	16
28	1.2	100	18	20	33	28	28	485	884	240	43	14
29	1.2	55	18	20	---	27	27	476	949	230	36	15
30	1.2	20	18	29	---	30	27	444	1,060	230	32	16
31	1.3	---	17	33	---	30	---	362	---	200	30	---
Total	38.4	2750	1,516	561	829	1,644	819	8,305	16,904	16,071	2,456	1,019
Mean	1.24	9.17	48.9	18.1	29.6	53.0	27.3	268	563	518	79.2	34.0
Max	1.5	100	350	33	36	329	31	671	1,060	1,100	175	144
Min	1.1	1.5	10	15	24	27	24	25	222	200	30	14
Ac-ft	76	545	3,010	1,110	1,640	3,260	1,620	16,470	33,530	31,880	4,870	2,020

Cal yr 1966: Total 26,494.3 Mean 72.6 Max 430 Min 1.1 Ac-ft 52,550
Wtr yr 1967: Total 50,437.4 Mean 138 Max 1,100 Min 1.1 Ac-ft 100,000

Peak discharge (base, 400 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-6	-	4.22	490	7-2	1930	5.62	1,680
5-24	1930	4.93	924				

TULARE LAKE BASIN

11-2146. HELMS CREEK BELOW COURTRIGHT DAM, CALIF.

LOCATION.--Lat 37°04'40", long 118°58'05", in NW¼ sec.7, T.10 S., R.28 E., on left bank 500 ft downstream from Courtright Dam, 2.5 miles upstream from North Fork Kings River, and 17 miles southeast of town of Huntington Lake.

DRAINAGE AREA.--39.7 sq mi.

RECORDS AVAILABLE.--October 1958 to September 1967.

GAGE.--Graphic water-stage recorder and broad-crested weir with V-notch. Altitude of gage is 7,840 ft (from Pacific Gas and Electric Co. survey).

AVERAGE DISCHARGE.--9 years, 74.9 cfs (54,230 acre-ft per year), adjusted for storage.

EXTREMES.--Maximum discharge during year, 786 cfs Apr. 30 (gage height, 5.56 ft); minimum daily, 25 cfs Aug. 9. 1958-67: Maximum discharge, 786 cfs Apr. 30, 1967 (gage height, 5.56 ft); maximum gage height, 6.52 ft June 2, 1961; minimum daily discharge, 0.9 cfs Oct. 30 to Nov. 6, 1958.

REMARKS.--Records good prior to July 8, poor thereafter. Flow regulated since Oct. 17, 1958, by Courtright Reservoir (see sta. no. 2145.5). No diversion above station. See schematic diagram of Kings River basin.

COOPERATION.--Gage-height record and seven discharge measurements furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	32	30	31	31	30	30	32	706	35	45	100	595
2	32	30	31	31	30	30	32	706	35	45	94	620
3	32	30	30	31	30	30	32	700	36	296	94	625
4	32	30	30	31	30	30	32	695	36	706	94	615
5	32	30	31	31	30	30	32	690	36	554	91	640
6	32	30	37	31	30	30	32	690	37	347	91	625
7	32	30	31	31	30	30	32	695	37	162	88	610
8	31	30	31	31	30	30	32	695	38	78	45	620
9	31	30	31	31	30	30	32	690	38	216	25	610
10	31	30	31	31	30	31	32	690	38	299	188	625
11	31	30	31	31	30	31	32	279	39	238	390	640
12	31	30	31	31	30	31	32	31	39	258	400	651
13	31	30	31	31	30	31	32	31	39	265	410	646
14	31	30	31	31	30	31	32	31	39	407	410	646
15	31	30	31	31	30	31	32	31	40	480	494	646
16	31	30	30	31	30	33	32	31	40	418	550	620
17	31	30	30	31	30	32	32	32	40	353	460	630
18	31	30	30	31	30	32	32	32	41	296	356	640
19	31	30	30	31	30	32	32	32	42	270	320	656
20	31	31	30	31	30	32	32	32	42	243	287	668
21	31	30	30	31	30	32	32	32	42	219	302	651
22	31	30	30	30	30	32	32	33	43	204	317	646
23	31	30	30	30	30	32	32	33	43	188	341	646
24	31	30	31	32	30	32	32	33	43	170	353	625
25	31	30	31	30	30	32	32	33	44	164	400	646
26	30	29	31	30	30	32	32	34	44	151	460	320
27	30	29	31	30	30	32	32	34	210	136	452	30
28	30	32	31	30	30	32	32	35	470	127	529	30
29	30	31	31	30	---	32	32	35	200	119	513	30
30	30	31	31	30	---	32	453	35	45	112	625	30
31	30	---	31	30	---	32	---	35	---	105	684	---
Total	962	903	957	953	840	969	1,381	7,891	1,951	7,671	9,963	16,282
Mean	31.0	30.1	30.9	30.7	30.0	31.3	46.0	255	65.0	247	321	543
Max	32	32	37	32	30	33	453	706	470	706	684	668
Min	30	29	30	30	30	30	32	31	35	45	25	30
Ac-ft	1,910	1,790	1,900	1,890	1,670	1,920	2,740	1,570	3,870	15,220	19,760	32,290

Cal yr 1966: Total	26,458	Mean	72.5	Max	290	Min	26	Ac-ft	52,480
Wtr yr 1967: Total	50,723	Mean	139	Max	706	Min	25	Ac-ft	100,600

RESERVOIRS IN TULARE LAKE BASIN, CALIF.

11-2145.5. COURTRIGHT RESERVOIR.--Lat 37°04'40", long 118°58'05", in NW $\frac{1}{4}$ sec.7, T.10 S., R.28 E., at left end of dam on Helms Creek, 2.5 miles upstream from mouth, 4.6 miles east of Nelson Mountain, and 9.7 miles west of Blackcap Mountain. Drainage area, 39.7 sq mi. Records available, October 1958 to September 1967. Gage, water-stage recorder attached to surface follower. Datum of gage is at mean sea level (levels by Pacific Gas and Electric Co.). Maximum contents during year, 124,200 acre-ft July 13 (elevation, 8,184.55 ft); minimum, 51,760 acre-ft May 11 (elevation, 8,126.49 ft). Maximum contents during period 1958-67, 124,200 acre-ft July 13, 1967 (elevation, 8,184.55 ft); no contents June 26 to Oct. 21, 1961, Oct. 23, 1961 to Mar. 31, 1962.

Reservoir is formed by rock-fill dam completed in 1958. Usable capacity, 123,300 acre-ft between elevations 7,902 (invert of tunnel) and 8,184 ft (elevation of spillway). Dead storage negligible. See schematic diagram of Kings River basin. Record of contents furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project.

11-2148. WISHON RESERVOIR.--Lat 37°00'20", long 118°58'00", in NW $\frac{1}{4}$ sec.6, T.11 S., R.28 E., on right end of dam on North Fork Kings River, 1.2 miles north of Cliff Camp, 1.3 miles upstream from Cliff Camp gaging station, and 20 miles southeast of town of Big Creek. Drainage area, 177 sq mi. Records available, December 1957 to September 1967. Gage, water-stage recorder attached to surface follower. Datum of gage is at mean sea level (levels by Pacific Gas and Electric Co.). Maximum contents during year, 128,800 acre-ft July 7 (elevation, 6,550.15 ft); minimum, 9,580 acre-ft Jan. 9 (elevation, 6,380.15 ft). Maximum contents during period 1957-67, 129,700 acre-ft July 29, 1958 (elevation, 6,551.1 ft); no contents Sept. 21 to Nov. 21, 1960.

Reservoir is formed by rock-fill dam completed in 1957. Capacity, 128,600 acre-ft between elevations 6,317 (bottom of slide gates) and 6,550 ft (operating crest of spillway gates). Dead storage negligible. Water is diverted to Haas powerhouse for power. See schematic diagram of Kings River basin. Record of contents furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project.

Month-end elevation and contents, water year October 1966 to September 1967

Date	Elevation (feet)†	Contents (acre-feet)	Change in contents (acre-feet)	Elevation (feet)†	Contents (acre-feet)	Change in contents (acre-feet)
Courtright Reservoir			Wishon Reservoir			
Sept. 30.....	8,134.3	59,000	-	6,486.1	71,000	-
Oct. 31.....	8,132.2	57,000	-2,000	6,441.8	40,500	-30,500
Nov. 30.....	8,131.6	56,400	-600	6,406.7	21,600	-18,900
Dec. 31.....	8,134.2	59,000	+2,600	6,400.6	18,700	-2,900
Calendar year 1966	-	-	+200	-	-	-400
Jan. 31.....	8,134.5	59,300	+300	6,391.2	14,300	-4,400
Feb. 28.....	8,134.3	59,100	-200	6,407.7	22,100	+7,800
Mar. 31.....	8,137.7	62,500	+3,400	6,428.0	32,600	+10,500
Apr. 30.....	8,138.7	63,500	+1,000	6,385.3	11,700	-20,900
May 31.....	8,148.0	73,600	+10,100	6,473.4	61,300	+49,600
June 30.....	8,180.8	118,100	+44,500	6,547.1	125,700	+64,400
July 31.....	8,184.0	123,200	+5,100	6,546.1	124,700	-1,000
Aug. 31.....	8,169.9	101,700	-21,500	6,527.4	106,600	-18,100
Sept. 30.....	8,144.8	70,000	-31,700	6,514.7	95,100	-11,500
Water year 1966-67	-	-	+11,000	-	-	+24,100

† Elevation at 2400 hours.

TULARE LAKE BASIN

11-2150. NORTH FORK KINGS RIVER NEAR CLIFF CAMP, CALIF.

LOCATION.--Lat 36°59'38", long 118°58'50", in NE¼NW¼ sec.12, T.11 S., R.27 E., on right bank at Cliff Camp Bridge, 1 mile northwest of Cliff Camp, 1.2 miles downstream from Wishon Dam, and 2 miles downstream from Woodchuck Creek.

DRAINAGE AREA.--181 sq mi.

RECORDS AVAILABLE.--August 1921 to September 1967. Monthly discharge only for some periods, published in WSP 1315-A.

GAGE.--Digital water-stage recorder. Datum of gage is 6,143.95 ft above mean sea level, adjustment of 1912 (levels by San Joaquin Light and Power Corp.). Prior to Nov. 24, 1922, graphic water-stage recorder at site 1 mile upstream at different datum. Nov. 24, 1922 to Oct. 6, 1966, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--46 years, 359 cfs (259,900 acre-ft per year), adjusted for storage and diversion.

EXTREMES.--Maximum discharge during year, 3,980 cfs July 13 (gage height, 10.92 ft); minimum daily, 8.0 cfs Jan. 2, 8, 9.

1921-57 (prior to regulation by Wishon Reservoir): Maximum discharge, 14,000 cfs Dec. 11, 1937 (gage height, 18.0 ft, from floodmarks), from rating curve extended above 4,200 cfs on basis of velocity-area studies; minimum, 0.6 cfs Dec. 30, 1930.

1957-67: Maximum discharge, 4,880 cfs May 28, 1958 (gage height, 11.75 ft); minimum daily, 0.8 cfs Dec. 14, 1957.

REMARKS.--Records good. Flow regulated by Wishon Reservoir since Dec. 5, 1957 (see sta. no. 2148) and Court-right Reservoir since Oct. 17, 1958 (see sta. no. 2145.5). Water diverted for power from Wishon Reservoir by tunnel to Haas powerhouse since Dec. 10, 1958. See schematic diagram of Kings River basin.

COOPERATION.--Gage-height record and seven discharge measurements furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	16	16	13	8.4	19	13	18	15	27	3,040	16	17
2	16	16	91	8.0	13	14	17	21	25	2,890	17	17
3	16	16	43	8.6	13	14	17	28	25	2,690	17	17
4	16	16	12	9.4	13	13	17	27	25	2,400	17	17
5	16	15	264	9.4	15	12	17	29	28	2,210	17	17
6	16	16	522	9.0	15	12	18	38	26	974	16	17
7	16	16	43	8.2	15	13	19	48	26	780	16	17
8	16	15	21	8.0	15	14	17	62	26	1,560	16	17
9	16	15	16	8.0	15	14	19	54	26	1,150	16	17
10	16	15	15	8.6	17	13	19	50	25	1,090	16	17
11	16	16	14	8.8	18	13	17	34	25	978	16	17
12	16	15	13	8.8	19	15	16	30	25	944	16	17
13	16	15	12	8.8	19	17	18	36	23	1,630	16	17
14	16	15	12	8.6	17	17	20	46	23	1,730	16	17
15	15	15	11	8.6	14	15	19	59	23	1,170	16	17
16	15	16	12	8.6	13	290	17	72	24	992	16	17
17	15	15	13	8.6	12	82	18	78	24	858	16	17
18	15	15	12	8.6	13	52	18	75	24	478	16	18
19	15	16	12	8.6	13	39	16	72	25	314	16	17
20	15	22	12	10	12	37	15	71	25	202	16	16
21	15	17	12	16	12	38	14	74	27	167	16	16
22	15	17	11	14	12	37	14	73	87	55	16	16
23	15	16	11	13	12	34	14	69	884	15	16	19
24	15	15	10	13	12	30	14	64	954	16	17	17
25	15	15	10	15	12	25	13	54	1,070	17	17	17
26	15	16	9.8	15	12	22	18	50	924	17	17	16
27	15	16	9.4	15	12	25	18	45	1,400	17	17	16
28	15	40	9.2	14	13	28	14	40	2,390	17	17	16
29	15	19	9.2	20	-----	25	13	37	2,560	17	17	16
30	15	17	8.8	35	-----	20	13	32	2,990	17	17	16
31	15	-----	8.6	32	-----	19	-----	30	-----	17	17	-----
TOTAL	479	504	1,272.0	375.6	397	1,012	497	1,513	13,786	28,452	508	505
MEAN	15.5	16.8	41.0	12.1	14.2	32.6	16.6	48.8	460	918	16.4	16.8
MAX	16	40	522	35	19	290	20	78	2,990	3,040	17	19
MIN	15	15	8.6	8.0	12	12	13	15	23	15	16	16
AC-FT	950	1,000	2,520	745	787	2,010	986	3,000	27,340	56,430	1,010	1,000

CAL YR 1966: TOTAL 6,468.2 MEAN 17.7 MAX 522 MIN 8.6 AC-FT 12,830
WAT YR 1967: TOTAL 49,300.6 MEAN 135 MAX 3,040 MIN 8.0 AC-FT 97,790

11-2158. TEAKETTLE CREEK AT SITE NO. 3, NEAR PATTERSON MOUNTAIN, CALIF.

LOCATION.--Lat 36°57'40", long 119°01'35", in NE¼ sec.21, T.11 S., R.27 E., on left bank 1.6 miles east of Patterson Mountain, 1.8 miles upstream from mouth, and 2.9 miles north of Black Rock Reservoir.

DRAINAGE AREA.--0.86 sq mi.

RECORDS AVAILABLE.--October 1957 to September 1967.

GAGE.--Graphic water-stage recorder, 90° sharp-crested V-notch weir, and sharp-crested Cipolletti weir. Datum of gage is 6,705.4 ft above mean sea level (levels by U.S. Forest Service). Prior to Oct. 1, 1961, at datum 4.00 ft lower.

AVERAGE DISCHARGE.--10 years, 1.26 cfs (912 acre-ft per year).

EXTREMES.--Maximum discharge during year, 90.0 cfs Dec. 6 (gage height, 3.69 ft); minimum daily, 0.24 cfs for several days in October.

1957-67: Maximum discharge, 99.0 cfs Feb. 1, 1963 (gage height, 3.81 ft); minimum daily, 0.08 cfs Sept. 6, 12-15, 1961.

REMARKS.--Records fair. No diversion or regulation above station. This station is operated in connection with studies to develop and test methods of managing forest and other lands for improved water yield. See schematic diagram for Kings River basin.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.26	0.25	0.52	1.45	1.48	1.48	2.55	1.92	9.42	7.15	2.25	1.18
2	.26	.25	1.88	1.43	1.43	1.52	2.49	1.97	9.02	6.58	2.19	1.18
3	.27	.25	2.85	1.40	1.39	1.52	2.37	2.14	9.02	6.15	2.14	1.22
4	.26	.25	1.10	1.38	1.39	1.48	2.37	2.02	9.02	5.84	2.08	1.18
5	.26	.26	10.7	1.36	1.39	1.48	2.31	1.97	9.28	5.53	2.02	1.15
6	.26	.30	50.3	1.30	1.39	1.48	2.25	2.31	9.42	5.24	1.97	1.10
7	.26	.40	12.5	1.28	1.43	1.52	2.31	2.74	9.70	4.96	1.92	1.10
8	.25	.64	8.36	1.25	1.43	1.57	2.19	3.30	9.84	4.77	1.92	1.10
9	.24	.52	6.58	1.22	1.43	1.57	2.19	3.45	9.98	4.59	1.87	1.06
10	.24	.59	5.44	1.22	1.52	1.52	2.19	3.23	9.98	4.33	1.81	1.06
11	.24	.67	4.42	1.22	1.52	1.37	2.15	3.01	10.3	4.00	1.76	1.03
12	.26	.64	3.83	1.22	1.57	1.43	2.08	2.88	10.3	4.08	1.71	1.03
13	.26	.62	3.23	1.20	1.62	1.48	2.14	3.01	9.70	3.91	1.66	.99
14	.25	.62	2.88	1.20	1.57	1.97	2.14	3.45	9.84	3.75	1.62	.99
15	.25	.64	2.49	1.18	1.52	2.02	2.10	4.08	10.3	3.75	2.19	.96
16	.25	1.29	2.30	1.18	1.52	11.6	2.08	4.86	10.4	3.60	1.71	.92
17	.24	.67	2.20	1.15	1.52	6.21	2.02	5.84	10.6	3.45	1.52	.96
18	.24	.59	2.10	1.15	1.52	4.77	2.08	6.69	11.0	3.30	1.48	1.60
19	.24	.67	2.07	1.13	1.52	4.25	2.10	7.62	10.7	3.15	1.43	1.10
20	.24	1.69	2.00	1.25	1.48	3.91	2.10	8.49	10.7	3.01	1.43	.99
21	.24	.52	1.90	1.70	1.52	3.75	2.02	9.70	11.0	2.94	1.39	.99
22	.25	.42	1.80	1.40	1.52	3.67	2.00	11.0	10.6	2.88	1.34	.99
23	.25	.40	1.75	1.20	1.52	3.60	1.97	11.9	9.98	2.81	1.34	.99
24	.25	.38	1.70	1.10	1.48	3.37	1.92	12.9	9.70	2.74	1.43	1.06
25	.25	.38	1.65	1.10	1.61	3.15	1.87	12.9	9.42	2.68	1.48	.96
26	.25	.38	1.60	1.10	1.48	3.08	2.02	12.9	9.15	2.62	1.39	.92
27	.25	.40	1.60	1.15	1.43	3.08	1.97	12.4	8.88	2.49	1.30	.89
28	.24	2.38	1.55	1.26	1.48	3.08	1.87	11.8	8.49	2.62	1.26	.89
29	.24	.92	1.55	1.43	- - - -	2.94	1.87	11.3	7.99	2.49	1.22	1.13
30	.24	.62	1.50	1.98	- - - -	2.81	1.87	10.6	7.62	2.43	1.18	.92
31	.24	- - - -	1.45	1.81	- - - -	2.85	- - - -	9.98	- - - -	2.31	1.18	- - - -
Total	7.73	18.61	145.80	40.40	41.68	89.53	63.59	202.36	291.35	120.15	51.19	31.64
Mean	0.249	0.620	4.70	1.30	1.49	2.89	2.12	6.53	9.71	3.88	1.65	1.05
Max	0.27	2.38	50.3	1.98	1.62	11.6	2.55	12.9	11.0	7.15	2.25	1.60
Min	0.24	0.25	0.52	1.10	1.39	1.37	1.87	1.92	7.62	2.31	1.18	0.89
Ac-ft	15.3	36.9	289	80.1	82.7	178	126	401	578	238	102	62.8

Cal yr 1966: Total 487.70 Mean 1.34 Max 50.3 Min 0.24 Ac-ft 967
Wtr yr 1967: Total 1104.03 Mean 3.02 Max 50.3 Min 0.24 Ac-ft 2190

Note.--No gage-height record Oct. 8 to Nov. 6, Dec. 16 to Jan 27.

TULARE LAKE BASIN

11-2158.2. TEAKETTLE CREEK TRIBUTARY NO. 2 NEAR PATTERSON MOUNTAIN, CALIF.

LOCATION.--Lat 36°57'35", long 119°02'00", in SE $\frac{1}{4}$ NW $\frac{1}{4}$ sec.21, T.11 S., R.27 E., on right bank 0.8 mile upstream from junction with Teakettle Creek, 1.2 miles east of Patterson Mountain, and 2.8 miles north of Black Rock Reservoir.

DRAINAGE AREA.--0.85 sq mi.

RECORDS AVAILABLE.--October 1957 to September 1967.

GAGE.--Graphic water-stage recorder, sharp-crested 90° V-notch weir, and sharp-crested Cipolletti weir. Datum of gage is 6,905.4 ft above mean sea level (levels by U.S. Forest Service). Prior to Oct. 1, 1961, at datum 2.00 ft lower.

AVERAGE DISCHARGE.--10 years, 1.10 cfs (796 acre-ft per year).

EXTREMES.--Maximum discharge during year, 70.2 cfs Dec. 6 (gage height, 3.62 ft); minimum daily, 0.17 cfs Oct. 18-23.

1957-67: Maximum discharge, 70.2 cfs Dec. 6, 1966 (gage height, 3.62 ft); minimum, 0.04 cfs Dec. 5, 1957, Sept. 12, 1961.

REMARKS.--Records fair. No regulation or diversion above station. This station is operated in connection with studies to develop and test methods of managing forest and other lands for improved water yields. See schematic diagram for Kings River basin.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.20	0.19	0.40	1.06	1.14	1.04	1.92	1.52	7.50	9.30	1.98	0.99
2	.21	.18	1.02	1.03	1.10	1.02	1.85	1.54	7.15	8.80	1.90	1.00
3	.21	.19	2.36	1.03	1.06	1.00	1.82	1.60	7.27	8.30	1.85	1.01
4	.21	.19	.81	1.03	1.18	1.00	1.80	1.70	7.38	7.80	1.80	1.02
5	.21	.19	10.5	.99	1.02	1.00	1.78	1.80	7.62	7.30	1.73	.97
6	.21	.22	39.6	.99	1.02	1.00	1.75	2.05	7.86	6.70	1.70	.96
7	.20	.27	7.92	.92	1.02	1.00	1.73	2.50	8.49	6.20	1.68	.94
8	.18	.36	4.59	.92	1.00	.99	1.72	2.88	8.62	5.80	1.65	.95
9	.18	.29	3.60	.99	1.00	.98	1.70	2.94	9.02	5.40	1.60	.94
10	.18	.29	3.01	.99	1.00	.98	1.70	2.81	9.15	5.05	1.55	.91
11	.18	.31	2.62	.99	1.04	.96	1.69	2.62	9.56	4.60	1.50	.90
12	.18	.29	2.31	.99	1.06	1.10	1.68	2.55	9.84	4.30	1.48	.88
13	.18	.27	2.14	.99	1.06	1.25	1.67	2.68	9.28	3.95	1.43	.86
14	.18	.27	2.02	.99	1.08	1.55	1.67	3.08	9.56	3.75	1.38	.85
15	.18	.27	1.81	.99	1.08	1.50	1.66	3.45	10.3	3.60	1.58	.82
16	.18	.79	1.81	.96	1.06	7.15	1.65	3.83	11.0	3.45	1.34	.82
17	.18	.34	1.76	.96	1.05	4.08	1.60	4.16	11.8	3.23	1.30	.85
18	.17	.29	1.71	.92	1.02	3.00	1.60	4.59	13.0	3.08	1.26	.92
19	.17	.30	1.66	.92	1.02	2.81	1.55	5.24	12.7	2.94	1.22	.92
20	.17	1.44	1.62	.96	1.00	2.68	1.55	5.94	13.2	2.81	1.22	.87
21	.17	.42	1.52	1.03	1.00	2.45	1.52	6.81	14.6	2.72	1.18	.86
22	.17	.32	1.48	1.06	1.00	2.40	1.50	7.99	13.6	2.66	1.14	.84
23	.17	.31	1.38	1.06	1.00	2.32	1.50	9.75	13.6	2.52	1.14	.86
24	.18	.29	1.34	.71	1.00	2.28	1.50	9.70	13.9	2.40	1.18	.90
25	.18	.29	1.22	.72	1.00	2.20	1.50	9.84	13.2	2.33	1.22	.83
26	.18	.29	1.22	.74	1.02	2.18	1.48	10.3	12.1	2.28	1.14	.80
27	.18	.29	1.18	.80	1.04	2.13	1.48	10.3	11.5	2.20	1.06	.76
28	.18	1.82	1.14	.90	1.06	2.08	1.48	10.1	10.8	2.25	1.03	.76
29	.18	.76	1.14	1.06	- - - -	2.05	1.50	9.70	10.2	2.18	.99	.82
30	.18	.47	1.14	1.34	- - - -	2.00	1.50	9.15	9.80	2.10	.99	.75
31	.18	- - - -	1.06	1.44	- - - -	1.98	- - - -	8.49	- - - -	2.02	.99	- - - -
Total	5.71	12.19	107.09	30.48	29.13	60.16	49.05	160.61	313.60	132.02	43.21	26.56
Mean	0.184	0.406	3.45	0.983	1.04	1.94	1.64	5.18	10.5	4.26	1.39	0.885
Max	0.21	1.82	39.6	1.44	1.18	7.15	1.92	10.3	14.6	9.30	1.98	1.02
Min	0.17	0.18	0.40	0.71	1.00	0.96	1.48	1.52	7.15	2.02	0.99	0.75
Ac-ft	11.3	24.2	212	60.5	57.8	119	97.3	319	622	262	85.7	52.7

Cal yr 1966: Total 397.09 Mean 1.09 Max 39.6 Min 0.17 Ac-ft 788
 Wtr yr 1967: Total 969.81 Mean 2.66 Max 39.6 Min 0.17 Ac-ft 1,920

Note.--No gage-height record Sept. 1-30.

11-2158.3. TEAKETTLE CREEK TRIBUTARY NO. 2A NEAR PATTERSON MOUNTAIN, CALIF.

LOCATION.--Lat 36°57'25", long 119°01'50", in NW¼SE¼ sec.21, T.11 S., R.27 E., on left bank 0.1 mile upstream from confluence with Teakettle Creek tributary No. 2, 1.3 miles east of Patterson Mountain, and 2.6 miles north of Black Rock Reservoir.

DRAINAGE AREA.--0.27 sq mi.

RECORDS AVAILABLE.--October 1957 to September 1967.

GAGE.--Graphic water-stage recorder and 90° sharp-crested V-notch weir. Datum of gage is 6,924 ft above mean sea level (levels by U.S. Forest Service). Prior to Oct. 1, 1961, at datum 4.00 ft lower.

AVERAGE DISCHARGE.--10 years, 0.38 cfs (275 acre-ft per year).

EXTREMES.--Maximum discharge during year, 60.3 cfs Dec. 6 (gage height, 3.61 ft); minimum daily, 0.04 cfs for several days in October and November.

1957-67: Maximum discharge, 60.3 cfs Dec. 6, 1966 (gage height, 3.61 ft); minimum daily, 0.01 cfs for many days in 1960-62.

REMARKS.--Records good prior to Jan. 20, poor thereafter. No regulation or diversion above station. This station is operated in connection with studies to develop and test methods of managing forest and other lands for improved water yield. See schematic diagram for Kings River basin.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.05	0.04	0.13	0.52	0.58	0.52	0.85	0.66	3.37	1.92	0.52	0.23
2	.05	.04	1.05	.52	.57	.52	.84	.67	3.23	1.81	.49	.24
3	.05	.04	1.25	.49	.54	.52	.82	.68	3.23	1.66	.47	.23
4	.05	.04	.35	.52	.53	.52	.81	.72	3.30	1.57	.47	.21
5	.05	.04	8.74	.52	.52	.51	.80	.76	3.52	1.52	.45	.21
6	.05	.05	31.0	.52	.52	.51	.79	.83	3.45	1.43	.45	.20
7	.05	.08	6.81	.52	.52	.50	.78	.96	3.60	1.30	.42	.20
8	.04	.13	1.97	.52	.52	.50	.76	1.10	3.67	1.26	.42	.20
9	.04	.08	1.39	.52	.52	.50	.74	1.23	3.83	1.18	.40	.18
10	.04	.08	1.18	.52	.52	.50	.74	1.23	3.83	1.14	.38	.18
11	.04	.10	1.03	.49	.52	.53	.73	1.20	3.91	1.06	.39	.17
12	.04	.08	.92	.49	.52	.60	.72	1.11	3.91	.99	.36	.17
13	.05	.07	.86	.49	.53	.70	.72	1.18	3.52	.99	.36	.17
14	.05	.07	.79	.49	.54	.76	.72	1.33	3.60	.96	.34	.17
15	.04	.07	.73	.49	.54	1.30	.72	1.55	3.83	.96	.58	.16
16	.04	.36	.70	.49	.53	4.80	.72	1.75	3.83	.89	.34	.16
17	.04	.09	.67	.47	.52	1.90	.72	2.05	3.91	.86	.31	.16
18	.04	.07	.64	.47	.52	1.60	.71	2.43	4.08	.82	.29	.39
19	.04	.12	.67	.47	.51	1.35	.70	2.55	3.91	.79	.27	.21
20	.04	.45	.64	.49	.51	1.20	.69	2.81	3.83	.76	.27	.17
21	.04	.12	.64	.56	.52	1.12	.68	3.23	4.08	.73	.26	.17
22	.04	.10	.62	.50	.52	1.07	.68	3.91	3.75	.70	.26	.18
23	.04	.09	.62	.46	.52	1.03	.67	4.42	3.37	.67	.26	.17
24	.04	.08	.59	.41	.52	1.00	.66	4.96	3.23	.67	.29	.20
25	.04	.08	.54	.37	.52	.97	.66	5.34	2.94	.64	.31	.18
26	.04	.08	.55	.38	.52	.96	.65	5.34	2.74	.62	.26	.16
27	.04	.09	.56	.41	.52	.94	.65	5.15	2.55	.59	.24	.15
28	.04	.83	.54	.45	.52	.92	.65	4.96	2.37	.62	.23	.16
29	.04	.24	.54	.54	-----	.90	.66	4.68	2.19	.59	.21	.22
30	.04	.15	.54	.68	-----	.88	.66	4.25	2.02	.56	.21	.17
31	.04	-----	.52	.68	-----	.86	-----	3.83	-----	.54	.23	-----
Total	1.33	3.96	67.79	15.45	14.74	30.49	21.70	76.87	102.60	30.80	10.73	5.77
Mean	0.043	0.132	2.19	0.498	0.526	0.984	0.723	2.48	3.42	0.994	0.346	0.192
Max	0.05	0.83	31.0	0.68	0.58	4.80	0.85	5.34	4.08	1.92	0.58	0.39
Min	0.04	0.04	0.13	0.37	0.51	0.50	0.65	0.66	2.02	0.54	0.21	0.15
Ac-ft	2.6	7.9	134	30.6	29.2	60.5	43.0	152	204	61.1	21.3	11.4

Cal yr 1966: Total 158.45 Mean 0.434 Max 31.0 Min 0.04 Ac-ft 314
Wtr yr 1967: Total 382.23 Mean 1.047 Max 31.0 Min 0.04 Ac-ft 758

TULARE LAKE BASIN

11-2158.4. TEAKETTLE CREEK TRIBUTARY NO. 1 NEAR PATTERSON MOUNTAIN, CALIF.

LOCATION.--Lat 36°57'00", long 119°01'10", in NW¼NW¼ sec.27, T.11 S., R.27 E., on left bank 0.2 mile upstream from confluence with Teakettle Creek, 2.1 miles north of Black Rock Reservoir, and 2.2 miles east of Patterson Mountain.

DRAINAGE AREA.--0.77 sq mi.

RECORDS AVAILABLE.--October 1957 to September 1967.

GAGE.--Graphic water-stage recorder, 90° sharp-crested V-notch weir, and sharp-crested Cipolletti weir. Datum of gage is 6,407.7 ft above mean sea level (levels by U.S. Forest Service). Prior to August 1959 at datum 4.0 ft lower.

AVERAGE DISCHARGE.--10 years, 1.18 cfs (854 acre-ft per year).

EXTREMES.--Maximum discharge during year, 142 cfs Dec. 6 (gage height, 4.49 ft); minimum daily, 0.17 cfs for several days in October and November.

1957-67: Maximum discharge, 142 cfs Dec. 6, 1966 (gage height, 4.49 ft); minimum daily, 0.08 cfs Sept. 12, 13, 1961.

REMARKS.--Records good. No regulation or diversion above station. This station is operated in connection with studies to develop and test methods of managing forest and other lands for improved water yield. See schematic diagram for Kings River basin.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.20	0.17	0.42	1.52	1.97	1.48	2.25	1.86	3.75	6.10	1.76	0.89
2	.20	.17	2.79	1.52	1.81	1.48	2.43	2.02	3.36	5.70	1.71	.89
3	.21	.17	2.85	1.48	1.76	1.52	2.37	2.19	3.49	5.40	1.66	.92
4	.20	.17	1.01	1.48	1.66	1.49	2.37	2.14	3.62	5.10	1.62	.89
5	.20	.17	17.5	1.48	1.66	1.43	2.31	2.08	9.15	4.70	1.57	.86
6	.20	.20	59.9	1.39	1.62	1.43	2.25	2.37	3.88	4.45	1.52	.86
7	.20	.29	14.4	1.34	1.62	1.48	2.31	2.48	9.15	4.15	1.52	.82
8	.18	.38	9.56	1.30	1.62	1.48	2.19	3.60	9.28	3.90	1.43	.82
9	.17	.26	7.50	1.30	1.57	1.48	2.25	3.67	9.60	3.70	1.43	.82
10	.17	.20	6.05	1.30	1.62	1.48	2.19	3.67	9.70	3.50	1.39	.79
11	.17	.26	4.96	1.30	1.62	1.30	2.31	3.30	9.80	3.35	1.34	.76
12	.18	.24	4.25	1.30	1.66	1.45	2.14	3.08	10.0	3.15	1.30	.76
13	.20	.23	3.60	1.30	1.71	1.71	2.19	3.30	9.70	2.94	1.30	.76
14	.20	.23	3.08	1.30	1.71	2.08	2.14	3.67	9.40	2.81	1.26	.73
15	.18	.23	2.62	1.26	1.66	1.91	2.19	4.68	10.0	2.81	1.61	.73
16	.18	.79	2.49	1.26	1.62	10.1	2.08	5.74	10.3	2.68	1.37	.70
17	.18	.31	2.31	1.26	1.62	5.34	2.02	6.69	10.4	2.55	1.22	.70
18	.17	.26	2.25	1.22	1.57	3.91	2.14	7.38	10.4	2.49	1.18	1.20
19	.17	.25	2.19	1.18	1.57	3.37	2.02	8.24	10.3	2.43	1.14	.89
20	.18	1.06	2.14	1.30	1.52	3.15	2.08	9.02	10.3	2.31	1.14	.76
21	.18	.38	2.02	1.81	1.52	3.15	1.92	10.4	10.5	2.25	1.10	.73
22	.17	.32	1.97	1.41	1.52	3.08	2.02	11.9	10.3	2.19	1.06	.76
23	.18	.29	1.81	1.43	1.52	3.08	1.97	12.9	9.80	2.19	1.10	.76
24	.18	.27	1.81	1.06	1.48	2.94	1.92	13.7	9.30	2.08	1.14	.76
25	.18	.26	1.71	1.08	1.57	2.81	1.86	13.6	9.00	2.02	1.14	.76
26	.18	.26	1.71	1.08	1.48	2.74	2.02	13.4	8.40	1.97	1.10	.70
27	.18	.27	1.71	1.10	1.48	2.74	2.02	13.2	7.90	1.92	1.06	.67
28	.18	1.66	1.62	1.39	1.48	2.81	1.92	12.6	7.50	1.97	.99	.67
29	.17	.76	1.62	1.62	- - - -	2.68	1.86	11.8	7.10	1.97	.96	.84
30	.17	.49	1.57	2.93	- - - -	2.55	1.81	10.7	6.50	1.87	.92	.70
31	.17	- - - -	1.57	2.57	- - - -	2.60	- - - -	9.84	- - - -	1.81	.89	- - - -
Total	5.68	11.00	170.99	44.27	45.22	80.24	63.55	215.62	276.88	96.46	38.98	23.90
Mean	0.183	0.367	5.51	1.43	1.62	2.59	2.12	6.96	9.23	3.11	1.29	0.797
Max	0.21	1.66	59.9	2.93	1.97	10.1	2.43	13.7	10.5	6.10	1.76	1.20
Min	0.17	0.17	0.42	1.06	1.48	1.30	1.81	1.86	6.50	1.81	0.89	0.67
Ac-ft	11.3	21.6	339	87.8	89.7	159	126	428	549	191	79.3	47.4

Cal yr 1966: Total 458.18 Mean 1.26 Max 59.9 Min 0.17 Ac-ft 909
 Wtr yr 1967: Total 1,073.79 Mean 2.94 Max 59.9 Min 0.17 Ac-ft 2,130

Note.--No gage-height record June 9 to July 12.

11-2165. NORTH FORK KINGS RIVER ABOVE DINKEY CREEK, AT BALCH CAMP, CALIF.

LOCATION.--Lat 36°54'10", long 119°07'15", in NW¼ sec.10, T.12 S., R.26 E., on left bank 100 ft downstream from bridge at Balch Camp, 200 ft upstream from Dinkey Creek, and 9.3 miles east of Trimmer.

DRAINAGE AREA.--250 sq mi.

RECORDS AVAILABLE.--October 1919 to September 1930, March 1960 to September 1967. Records for water year 1920 incomplete, yearly estimate and monthly discharge only for some months, published in WSP 1315-A. Prior to October 1962, published as "above Dinkey Creek."

GAGE.--Graphic water-stage recorder and since Apr. 15, 1966, concrete control. Altitude of gage is 1,240 ft (from river-profile map). October 1919 to Apr. 14, 1966, at site 100 ft downstream at different datum.

AVERAGE DISCHARGE.--11 years (1919-30), 387 cfs (280,200 acre-ft per year), prior to storage and diversion.

EXTREMES.--Maximum discharge during year, 12,600 cfs Dec. 6 (gage height, 9.40 ft), from rating curve extended above 23 cfs on basis of computation of flow over dam; minimum daily, 6.4 cfs Jan. 11.

1919-30 (prior to regulation by Wishon and Courtright Reservoirs): Maximum discharge, 6,080 cfs June 4, 1922 (gage height, 12.18 ft); minimum, 4 cfs Aug. 29 to Sept. 1, 1924.

1960-67: Maximum discharge, 14,000 cfs Feb. 1, 1963 (gage height, 13.24 ft, backwater from Dinkey Creek), from rating curve extended above 890 cfs; minimum daily, 0.30 cfs Nov. 3, 1964.

REVISIONS.--The maximum discharge for the water year 1966 has been revised to 838 cfs May 24, 1966 (gage height, 3.16 ft), superseding figure published in 1966 report.

REMARKS.--Records good except those above 23 cfs, which are fair. Flow regulated by Courtright Reservoir (see sta. no. 2145.5) and Wishon Reservoir (see sta. no. 2148.), Black Rock Reservoir (capacity, 1,000 acre-ft), Balch afterbay (capacity, 125 acre-ft), and Haas and Balch powerplants. Diversion from Balch afterbay to Kings River powerhouse began Mar. 1, 1962. See schematic diagram of Kings River basin.

COOPERATION.--Gage-height record and nine discharge measurements furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	19	25	15	7.6	31	7.6	15	35	508	3,320	28	17
2	20	24	47	8.1	24	7.6	16	132	450	3,290	28	17
3	22	24	169	8.6	22	7.8	14	249	466	3,240	25	17
4	24	24	18	7.8	11	8.0	22	265	536	3,160	18	17
5	24	24	1,710	7.8	8.3	8.0	30	245	608	2,990	18	17
6	24	25	7,680	7.8	7.8	7.8	20	274	502	1,940	17	17
7	24	25	409	7.8	8.0	7.5	41	377	550	990	17	17
8	26	25	20	7.8	9.2	7.3	30	490	562	2,010	17	17
9	33	24	13	8.3	9.2	7.3	21	440	580	1,610	17	17
10	26	18	9.8	12	8.6	7.3	18	528	594	1,550	17	17
11	23	17	8.3	6.4	8.3	10	29	372	601	1,630	17	17
12	21	17	7.5	6.9	8.1	22	24	324	601	1,330	17	17
13	24	17	7.0	10	8.6	31	21	299	562	1,480	17	17
14	27	17	6.6	46	10	17	98	383	544	2,010	17	17
15	22	22	6.7	40	9.2	14	255	478	580	1,400	17	17
16	19	22	12	9.2	8.1	298	510	595	522	1,000	17	17
17	22	18	12	7.8	9.4	129	228	784	601	933	16	17
18	24	17	12	8.0	8.8	19	48	694	678	622	16	18
19	24	17	12	8.6	8.3	15	200	755	664	484	16	18
20	24	18	14	8.1	8.3	13	214	800	678	335	16	18
21	24	18	10	9.6	8.1	12	206	980	748	310	54	18
22	24	18	7.8	13	8.1	12	197	1,130	741	233	27	18
23	24	18	8.0	9.6	8.0	11	206	1,240	1,350	152	22	17
24	24	18	8.1	29	7.8	10	243	684	1,630	166	19	18
25	24	20	8.1	25	8.8	10	208	1,210	1,710	96	17	18
26	25	17	8.3	15	8.0	9.6	229	1,060	1,810	27	17	18
27	25	15	8.1	12	7.8	9.4	245	1,000	1,830	19	17	18
28	24	16	8.0	11	7.8	9.6	185	926	2,940	46	16	18
29	24	16	7.8	18	-----	11	44	848	3,260	31	17	18
30	24	16	7.8	44	-----	10	37	762	3,340	28	17	17
31	24	-----	7.8	49	-----	16	-----	678	-----	28	17	-----
Total	738	592	10,278.7	469.8	290.6	764.8	3,654	19,037	30,746	36,460	608	521
Mean	23.8	19.7	332	15.2	10.4	24.7	122	614	1,025	1,176	196	17.4
Max	33	25	7,680	49	31	298	510	1,240	3,340	3,320	54	18
Min	19	15	7.8	6.4	7.8	7.3	14	35	450	19	16	17
Ac-ft	1,460	1,170	20,390	932	576	1,520	7,250	37,760	60,980	72,320	1,210	1,030

Cal yr 1966: Total 16,601.6 Mean 45.5 Max 7,680 Min 7.1 Ac-ft 32,930
Wtr yr 1967: Total 104,159.9 Mean 285 Max 7,680 Min 6.4 Ac-ft 206,600

TULARE LAKE BASIN

11-2168. ROCK CREEK AT DINKEY CREEK, CALIF.

LOCATION (revised).--Lat 37°05'12", long 119°09'40", in NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.5, T.10 S., R.26 E., on right bank 0.4 mile northwest of town of Dinkey Creek and 0.5 mile upstream from mouth.

DRAINAGE AREA.--7.60 sq mi.

RECORDS AVAILABLE.--July 1960 to September 1967.

GAGE.--Graphic water-stage recorder and low-flow concrete control. Altitude of gage is 6,150 ft (from topographic map).

AVERAGE DISCHARGE.--7 years, 18.2 cfs (13,180 acre-ft per year).

EXTREMES.--Maximum discharge during year, 2,200 cfs Dec. 6 (gage height, 8.20 ft), from rating curve extended above 400 cfs as explained below; no flow Oct. 1 to Nov. 6.

1960-67: Maximum discharge, 2,850 cfs Feb. 1, 1963 (gage height, 8.68 ft), from rating curve extended above 400 cfs on basis of slope-area measurement of maximum flow; no flow at times in 1961-62, 1964-67.

REMARKS.--Records good. No diversions or regulation above station. See schematic diagram for Kings River basin.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	7.0	8.5	22	17	34	16	80	36	4.5	0.50
2		0	54	8.5	17	18	27	19	78	32	4.2	1.7
3		0	139	9.3	15	18	25	25	104	28	4.1	1.3
4		0	34	8.3	15	16	23	28	123	25	3.7	1.0
5		0	433	8.1	16	13	23	29	117	22	3.5	1.9
6		0	1280	7.5	17	15	22	34	128	21	3.3	.90
7		.40	136	7.3	13	16	21	60	151	19	3.3	.70
8		.50	62	7.2	18	19	20	90	144	17	3.1	.50
9		.40	41	7.2	19	19	21	88	142	15	3.0	.30
10		.20	33	7.3	21	18	21	66	149	14	2.9	.30
11		.30	28	7.9	23	15	20	46	146	13	2.7	.30
12		.40	26	9.3	24	32	21	40	131	12	2.6	.30
13		.40	23	9.7	23	23	21	44	114	11	2.5	.20
14		.40	21	9.7	21	25	24	68	114	9.8	2.4	.20
15		.40	19	9.7	13	22	23	100	119	9.1	3.4	.20
16		6.0	19	8.9	17	244	19	144	110	9.9	4.2	.20
17		1.2	13	8.5	15	232	21	163	121	9.3	2.6	.10
18		.60	18	8.1	16	125	22	180	124	7.9	2.3	2.1
19		.50	18	7.7	17	91	24	184	106	7.2	2.2	1.8
20		40	17	8.3	17	67	24	199	108	6.6	2.0	.80
21		8.5	15	9.8	16	59	21	217	108	6.3	1.9	.50
22		4.9	13	9.3	17	60	22	234	95	6.1	1.7	1.3
23		4.0	12	10	16	55	20	231	83	5.8	1.6	1.8
24		3.0	11	11	15	43	18	229	74	5.5	1.7	1.3
25		2.4	11	23	14	42	17	216	67	6.1	1.8	.90
26		2.3	9.3	18	14	37	18	210	60	7.2	1.8	.60
27		2.5	7.0	16	15	38	21	199	54	6.5	1.2	.50
28		125	9.5	12	16	43	17	192	47	6.1	1.0	.20
29		32	9.8	15	-----	38	15	176	44	5.7	.80	1.0
30		13	9.3	20	-----	32	14	147	40	5.2	.50	.80
31		-----	9.9	27	-----	33	-----	113	-----	4.7	.50	-----
Total	0	249.30	2,540.8	333.1	492	1,529	639	3,787	3,081	388.0	77.00	24.20
Mean	0	8.31	82.0	10.7	17.6	49.3	21.3	122	103	12.5	2.48	0.81
Max	0	125	1,280	27	24	244	34	234	151	36	4.5	2.1
Min	0	0	7.0	7.2	14	13	14	16	40	4.7	0.50	0.10
Ac-ft	0	494	5,040	661	975	3,030	1,270	7,510	6,110	770	153	48

Cal yr 1966: Total 6,952.30 Mean 19.0 Max 1,280 Min 0 Ac-ft 13,790
 Wtr yr 1967: Total 13,140.40 Mean 36.0 Max 1,280 Min 0 Ac-ft 26,060

Peak discharge (base, 70 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-20	0300	4.59	146	3-16	1600	6.00	530
11-28	1430	5.95	510	5-08	1900	4.32	140
12-03	0100	5.91	494	5-22	1800	5.55	375
12-06	0800	8.20	2,200	6-07	1800	4.87	224

11-2184. NORTH FORK KINGS RIVER BELOW DINKEY CREEK, NEAR BALCH CAMP, CALIF.

LOCATION.--Lat 36°52'50", long 119°07'40", in NW¼ sec.22, T.12 S., R.26 E., on right bank 1.1 miles upstream from mouth, 1.7 miles south of Balch Camp, 2.1 miles downstream from Dinkey Creek, and 9 miles east of Trimmer.

DRAINAGE AREA.--387 sq mi.

RECORDS AVAILABLE.--March 1960 to September 1967. Prior to October 1962, published as "below Dinkey Creek."

GAGE.--Digital water-stage recorder. Altitude of gage is 1,035 ft (from river-profile map). Prior to Mar. 24, 1966, graphic water-stage recorder at same site and datum.

EXTREMES.--Maximum discharge during year, 22,100 cfs Dec. 6 (gage height, 17.53 ft), from rating curve extended above 4,900 cfs; minimum daily, 26 cfs Oct. 1, 16.

1960-67: Maximum discharge, 27,400 cfs (revised) Feb. 1, 1963 (gage height, 19.20 ft), from rating curve extended above 4,900 cfs; minimum daily, 14 cfs Aug. 26-30, 1964.

REVISIONS.--Figures of maximum discharge for the water years 1963 and 1965 have been revised to 27,400 cfs Feb. 1, 1963 (gage height, 19.20 ft) and 6,960 cfs Dec. 23, 1964 (gage height, 11.10 ft), superseding figures published in Surface Water Records of California, Vol. 2.

REMARKS.--Records good. Flow regulated by Courtright Reservoir (see sta. no. 2145.5), Wishon Reservoir (see sta. no. 2148), Black Rock Reservoir (capacity, 1,000 acre-ft), Balch afterbay (capacity, 125 acre-ft), and Haas and Balch powerplants. Diversion from Balch afterbay to Kings River powerhouse began Mar. 1, 1962. See schematic diagram of Kings River basin.

COOPERATION.--Gage-height record and 11 discharge measurements furnished by Pacific Gas and Electric Co. in cooperation with a Federal Power Commission project.

REVISIONS.--Revised figures of discharge, in cubic feet per second, for the high-water period in the water year 1963, superseding figures published in Surface Water Records of California, Vol. 2 are given herewith:

Jan. 30, 1963..... 873
31..... 8,690
Feb. 1.....10,400
2..... 1,620

Month	Cfs-days	Maximum	Minimum	Mean	Acre-feet
January 1963.....	10,101	8,690	15	326	20,040
February.....	20,628	10,400	212	737	40,920
Wat yr 1963.....	121,438	10,400	15	333	240,900
Cal yr 1963.....	126,252	10,400	15	346	250,400

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	26	29	86	137	370	225	434	342	1,670	4,590	160	60
2	27	29	286	134	296	231	420	460	1,470	4,350	151	67
3	28	29	971	132	266	239	390	599	1,560	4,040	141	70
4	29	29	211	130	250	225	430	721	1,780	3,690	130	71
5	30	29	3,680	133	254	204	442	647	1,970	3,480	125	68
6	29	30	14,900	126	257	205	415	714	1,680	2,620	119	66
7	29	37	2,140	120	262	207	526	1,030	1,950	1,790	115	62
8	30	50	786	119	265	220	438	1,440	2,040	2,660	110	60
9	32	42	525	120	261	228	425	1,530	2,050	2,180	106	60
10	29	33	424	125	285	230	429	1,610	2,090	2,070	102	59
11	28	30	367	124	301	248	450	1,080	2,140	2,100	98	58
12	27	30	324	134	301	370	407	928	2,130	1,850	94	55
13	29	30	298	139	297	423	397	897	1,960	2,110	92	55
14	31	29	268	176	283	321	487	1,110	1,850	2,480	89	54
15	29	32	251	169	245	290	630	1,500	1,980	1,980	92	52
16	26	43	251	141	228	2,310	794	1,940	1,980	1,640	95	51
17	28	63	244	135	220	1,990	542	2,360	2,090	1,540	96	51
18	29	39	235	130	223	1,210	468	2,450	2,330	1,120	96	66
19	29	32	236	126	234	885	584	2,580	2,270	876	88	96
20	29	166	233	124	223	714	598	2,740	2,340	665	81	66
21	29	103	210	247	217	661	573	3,080	2,580	606	106	58
22	29	72	191	236	220	665	594	3,370	2,440	489	81	58
23	29	58	182	192	218	631	567	3,420	2,930	380	76	61
24	29	50	173	266	209	573	627	2,970	3,110	384	74	61
25	29	47	165	248	220	507	555	3,270	3,170	289	80	68
26	29	40	161	216	206	468	589	3,070	3,180	224	84	62
27	29	39	139	225	216	455	632	2,940	3,330	199	76	56
28	29	416	145	211	218	509	543	2,740	4,120	276	70	53
29	29	338	150	300	-----	490	363	2,530	4,280	225	67	56
30	29	128	147	527	-----	426	341	2,320	4,590	186	64	64
31	29	-----	136	646	-----	440	-----	2,040	-----	172	62	-----
TOTAL	893	2,122	28,515	5,988	7,045	16,800	15,090	58,428	73,060	51,261	3,020	1,844
MEAN	28.8	70.7	920	193	252	542	503	1,885	2,435	1,654	97.4	61.5
MAX	32	416	14,900	646	370	2,310	794	3,420	4,590	4,590	160	96
MIN	26	29	86	119	206	204	341	342	1,470	172	62	51
AC-FT	1,770	4,210	56,560	11,880	13,970	33,320	29,930	115,900	144,900	101,700	5,990	3,660

CAL YR 1966: TOTAL 88,632 MEAN 243 MAX 14,900 MIN 25 AC-FT 175,800
WAT YR 1967: TOTAL 264,066 MEAN 723 MAX 14,900 MIN 26 AC-FT 523,800

TULARE LAKE BASIN

11-2185. KINGS RIVER BELOW NORTH FORK, NEAR TRIMMER, CALIF.

LOCATION.--Lat 36°52'30", long 119°08'30", in NE¼ sec.21, T.12 S., R.26 E., on right bank 0.8 mile downstream from North Fork, 2.4 miles southwest of Balch Camp, and 8.5 miles southeast of Trimmer.

DRAINAGE AREA.--1,342 sq mi.

RECORDS AVAILABLE.--October 1951 to September 1967. Prior to January 1952 monthly discharge only, published in WSP 1735. Published as Kings River below North Fork October 1951 to September 1965.

GAGE.--Graphic water-stage recorder. Datum of gage is 942.42 ft above mean sea level (levels by Corps of Engineers).

AVERAGE DISCHARGE.--16 years, 2,117 cfs (1,533,000 acre-ft per year), adjusted for change in contents in Wishon and Courtright Reservoirs.

EXTREMES.--Maximum discharge during year, 63,300 cfs Dec. 6, from rating curve extended above 18,000 cfs on basis of slope-area measurement at gage height, 23.08 ft; minimum daily, 292 cfs Nov. 24.
1951-67: Maximum discharge, 85,200 cfs Dec. 23, 1955 (gage height, 23.08 ft), from rating curve extended above 18,000 cfs on basis of slope-area measurement of maximum flow; minimum daily, 97 cfs Jan. 13, 1963.
Flood of Nov. 19, 1950, reached a stage of 21.6 ft, from floodmarks (discharge, 74,200 cfs).

REMARKS.--Records good. Flow regulated by Courtright and Wishon Reservoirs (see sta. nos. 2145.5 and 2148). Records include flow diverted to Kings River powerplant since Mar. 1, 1962. This station measures inflow to Pine Flat Reservoir. See schematic diagram for Kings River basin. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

COOPERATION.--Six discharge measurements furnished by Kings River Water Association. Records of diversion to Kings River powerplant furnished by Pacific Gas and Electric Co.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	
1	685	656	1,090	1,490	2,490	1,240	2,220	2,550	8,790	19,100	5,410	2,190	
2	668	654	1,170	1,490	1,310	1,220	2,230	2,920	7,700	13,900	5,120	2,190	
3	673	643	3,230	1,460	1,750	1,290	2,090	3,100	7,770	13,200	4,890	2,310	
4	630	690	1,360	1,470	1,580	1,310	2,300	3,360	8,390	16,900	4,590	2,620	
5	675	619	12,600	1,570	1,510	1,310	2,450	3,320	8,620	15,800	4,400	2,840	
6	608	610	45,600	1,560	1,510	1,240	2,520	3,450	7,880	13,100	4,190	2,310	
7	729	778	10,700	1,510	1,540	1,240	3,380	3,980	8,960	12,300	3,840	2,150	
8	723	849	5,550	1,290	1,510	1,200	3,210	4,800	9,910	12,500	3,420	1,750	
9	306	827	3,900	344	1,450	1,400	3,020	5,900	10,500	11,100	3,270	1,980	
10	684	767	2,930	642	1,460	1,410	2,950	6,340	11,000	10,500	3,330	1,870	
11	730	745	2,460	643	1,510	1,440	3,260	4,990	11,300	10,200	3,270	1,770	
12	665	700	2,590	679	1,630	2,270	3,090	4,530	11,500	10,900	3,250	1,620	
13	669	644	2,280	696	1,660	3,160	2,940	4,340	10,900	11,700	3,190	1,640	
14	697	767	2,340	333	1,720	2,150	3,170	4,650	10,100	12,600	3,260	1,630	
15	573	727	2,110	350	1,540	2,370	3,400	5,550	10,800	12,400	3,180	1,600	
16	573	901	2,070	344	1,440	7,160	3,230	7,140	11,600	11,500	3,150	1,570	
17	630	947	2,040	720	1,380	7,150	3,150	8,720	11,400	10,700	3,110	1,530	
18	635	630	2,020	746	1,340	5,510	3,140	9,880	12,800	9,220	3,160	1,570	
19	683	196	1,320	856	1,350	4,140	3,390	10,800	13,300	8,280	2,880	1,820	
20	635	757	1,760	915	1,300	3,350	3,350	11,800	12,100	7,490	2,770	1,780	
21	725	907	1,700	1,340	1,260	3,370	3,340	13,000	14,000	6,960	2,550	1,670	
22	675	656	1,750	1,440	1,270	3,340	3,410	14,300	15,300	6,890	2,670	1,620	
23	663	643	1,920	1,410	1,250	3,180	3,300	15,200	14,800	6,410	2,390	1,470	
24	663	292	1,720	2,020	1,440	3,250	3,450	14,900	15,100	6,330	2,550	1,620	
25	664	633	1,550	1,780	1,340	2,920	3,220	15,500	15,600	6,290	2,750	1,630	
26	689	303	1,610	1,660	1,090	2,310	3,290	15,000	16,000	6,190	2,550	1,580	
27	711	341	1,470	1,300	1,200	2,550	3,400	14,200	16,300	6,390	2,530	1,580	
28	706	1,470	1,580	1,720	1,300	2,370	3,260	13,200	17,400	6,200	2,190	1,550	
29	603	3,240	1,530	2,080	-----	2,560	2,720	12,400	17,800	6,270	2,200	1,580	
30	625	1,590	1,560	3,200	-----	2,520	2,130	11,500	19,000	6,200	2,110	1,670	
31	704	-----	1,510	3,780	-----	2,580	-----	9,840	-----	5,630	2,150	-----	
Total	20,419	23,982	127,570	43,352	41,730	83,410	90,010	261,160	366,620	323,150	100,320	54,710	
Mean	659	799	4,115	1,415	1,490	2,691	3,000	8,425	12,220	10,420	3,235	1,824	
Max	780	3,240	45,600	3,780	2,490	7,160	3,450	15,500	19,000	19,100	5,410	2,840	
Min	306	292	1,090	642	1,090	1,200	2,090	2,550	7,700	5,630	2,110	1,470	
Ac-ft	40,500	47,570	253,000	86,980	82,770	165,400	178,500	518,000	727,200	641,000	199,000	108,500	
Mean †	130	472	4,110	1,343	1,627	2,916	2,665	9,395	14,050	10,490	2,592	1,097	
Ac-ft†	8,000	23,070	252,700	82,380	90,370	179,300	158,600	577,700	836,100	645,100	159,400	65,300	
Cal yr 1966: Total	668,249	Mean	1,831	Max	45,600	Min	292	Ac-ft	1,325,000	Mean †	1,831	Ac-ft †	1,325,000
Wtr yr 1967: Total	1,536,933	Mean	4,211	Max	45,600	Min	292	Ac-ft	3,048,000	Mean †	4,259	Ac-ft †	3,084,000

† Adjusted for change in contents in Wishon and Courtright Reservoirs.

11-2200. BIG CREEK ABOVE PINE FLAT RESERVOIR, NEAR TRIMMER, CALIF.

LOCATION.--Lat 36°55'05", long 119°14'45", in NE¼ sec.4, T.12 S., R.25 E., on right bank 2.4 miles upstream from mouth and 2.7 miles northeast of Trimmer.

DRAINAGE AREA.--69.9 sq mi.

RECORDS AVAILABLE.--October 1953 to September 1967. Prior to September 1965 published as Big Creek above Pine Flat Reservoir.

GAGE.--Graphic water-stage recorder. Datum of gage is 962.04 ft above mean sea level (levels by Corps of Engineers).

AVERAGE DISCHARGE.--14 years, 47.1 cfs (34,100 acre-ft per year); median of yearly mean discharges, 32 cfs (23,200 acre-ft per year).

EXTREMES.--Maximum discharge during year, 7,590 cfs Dec. 6 (gage height, 8.43 ft), from rating curve extended above 1,300 cfs as explained below; minimum daily, 0.40 cfs Oct. 1, 2.
1953-67: Maximum discharge, 10,400 cfs Dec. 23, 1955 (gage height, 9.21 ft), from rating curve extended above 1,300 cfs on basis of slope-area measurement of maximum flow; no flow at times in 1955, 1959-64, 1966.

REMARKS.--Records good. This station measures inflow to Pine Flat Reservoir. No regulation or diversion above station. See schematic diagram for Kings River basin.

COOPERATION.--Two discharge measurements furnished by Kings River Water Association.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.40	1.7	10	23	299	62	252	269	135	59	21	7.1
2	.40	1.7	70	23	183	59	258	295	172	57	20	7.4
3	.70	1.7	339	23	146	59	229	302	166	53	19	3.4
4	.80	1.7	43	23	126	68	357	309	164	51	19	3.4
5	1.0	1.7	1,370	22	114	61	381	299	186	51	18	3.1
6	1.0	2.0	4,300	21	104	60	326	292	166	49	17	7.8
7	1.0	3.1	516	20	97	53	623	340	162	47	16	7.1
8	1.0	6.2	173	20	90	57	381	377	152	46	16	7.1
9	1.0	4.4	105	20	86	54	323	385	144	45	16	7.1
10	1.0	3.3	78	20	83	53	305	430	138	44	15	7.1
11	.80	3.1	64	20	80	127	375	351	136	43	14	7.1
12	.70	2.9	54	19	73	551	306	306	132	40	14	6.7
13	.80	2.9	43	19	77	580	285	289	129	40	13	6.4
14	1.0	2.7	43	18	74	376	289	292	122	39	13	6.2
15	1.1	2.7	40	18	70	272	319	326	117	38	13	5.6
16	1.3	3.3	38	17	65	985	289	355	112	38	14	5.6
17	1.5	9.1	35	17	62	599	265	370	107	35	13	5.9
18	1.5	5.2	33	17	60	381	423	366	103	35	12	3.4
19	1.5	4.0	33	16	61	299	424	355	93	33	11	14
20	1.5	11	32	17	59	243	392	355	95	32	11	9.8
21	1.3	16	30	63	53	225	392	351	91	31	9.8	9.1
22	1.5	14	29	187	53	223	436	340	87	30	9.6	8.8
23	1.7	15	27	77	56	206	381	333	83	29	9.4	9.8
24	1.7	9.1	27	304	54	191	428	316	80	29	9.2	9.5
25	1.7	7.1	26	225	78	170	373	292	77	27	9.0	9.1
26	1.3	6.4	29	120	71	160	366	265	74	27	3.8	3.4
27	1.3	5.9	25	106	67	150	358	245	72	25	8.6	7.4
28	1.5	6.7	24	95	64	166	344	232	70	25	8.4	7.1
29	1.3	33	25	237	-----	193	295	213	66	24	8.1	7.4
30	1.5	16	26	621	-----	160	268	209	63	23	7.8	7.1
31	1.5	-----	24	740	-----	236	-----	201	-----	23	7.4	-----
Total	36.3	203.6	9,727	3,173	2,525	7,091	10,444	9,714	3,550	1,168	400.1	2,340
Mean	1.17	6.79	282	102	902	229	348	313	119	37.7	12.9	7.80
Max	1.7	33	4,800	740	299	986	623	480	186	59	21	14
Min	0.40	1.7	10	16	54	53	229	201	63	23	7.4	5.6
Ac-ft	72	404	17,310	6,290	5,010	14,060	20,720	19,270	7,040	2,320	794	464

Cal yr 1966: Total 15,047.8 Mean 41.2 Max 4,300 Min 0 Ac-ft 29,350
Wtr yr 1967: Total 47,265.0 Mean 129 Max 4,300 Min 0.40 Ac-ft 93,750

Peak discharge (base, 500 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-03	0200	5.06	1,190	3-16	1400	5.85	2,000
12-06	0800	8.43	7,590	4-04	1900	4.28	660
1-24	1330	4.17	640	4-07	0900	4.64	878
1-30	2200	5.69	1,890	4-18	1100	4.22	630
3-13	0300	4.76	962	5-10	0200	4.07	555

TULARE LAKE BASIN

11-2205. SYCAMORE CREEK ABOVE PINE FLAT RESERVOIR, NEAR TRIMMER, CALIF.

LOCATION.--Lat 36°55'15", long 119°18'30", in NW $\frac{1}{4}$ sec.1, T.12 S., R.24 E., on right bank 0.1 mile downstream from Little Dry Creek, 1.7 miles northwest of Trimmer, and 4.8 miles upstream from mouth.

DRAINAGE AREA.--56.1 sq mi.

RECORDS AVAILABLE.--April 1953 to September 1967. Prior to October 1965, published as Sycamore Creek above Pine Flat Reservoir.

GAGE.--Graphic water-stage recorder. Datum of gage is 1,141.96 ft above mean sea level (levels by Corps of Engineers).

AVERAGE DISCHARGE.--14 years, 20.2 cfs (14,620 acre-ft per year), median of yearly mean discharges, 11 cfs (8,000 acre-ft per year).

EXTREMES.--Maximum discharge during year, 4,140 cfs Dec. 6 (gage height, 8.26 ft), from rating curve extended above 1,400 cfs on basis of slope-area measurement at gage height 9.78 ft; no flow for many days.
1953-67: Maximum discharge, 8,760 cfs Dec. 24, 1955 (gage height, 9.78 ft), from rating curve extended above 2,900 cfs on basis of slope-area measurement of maximum flow; no flow for several months each year.

REMARKS.--Records good. This station measures inflow to Pine Flat Reservoir. No regulation or diversion above station. See schematic diagram for Kings River basin.

COOPERATION.--Three discharge measurements furnished by Kings River Water Association.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	0.40	3.6	92	12	119	100	34	6.2	0.70	0
2		0	15	3.6	59	11	150	95	29	5.9	.60	0
3		0	66	3.3	47	11	97	99	27	4.9	.40	0
4		0	5.2	3.0	43	17	313	89	26	4.6	.40	.10
5		0	742	3.0	36	16	303	81	27	4.6	.30	0
6		0	2,300	3.3	32	13	161	75	27	4.6	.20	.10
7		0	179	3.3	29	12	529	75	27	4.3	.20	.20
8		0	47	3.0	24	12	232	74	26	4.0	.20	.20
9		0	27	3.0	23	10	146	74	23	4.0	.20	.20
10		0	17	3.0	21	9.9	119	95	22	3.6	.20	.10
11		0	13	3.0	19	51	294	70	21	3.3	.10	.10
12		0	10	3.0	18	230	151	62	21	3.0	.10	.10
13		0	9.8	3.0	19	260	117	58	22	2.8	.10	.10
14		0	7.3	3.0	15	346	103	55	20	2.2	.10	.10
15		0	6.2	3.0	14	130	169	52	13	2.5	.10	0
16		0	6.2	3.0	14	561	132	51	13	2.8	.10	.10
17		0	5.6	3.0	14	198	103	43	16	2.0	.10	.10
18		0	5.2	3.0	12	103	364	47	14	2.0	.10	.40
19		0	4.9	3.0	12	72	463	45	14	2.0	.10	.50
20		0	4.6	3.0	12	62	347	43	14	1.8	.10	.50
21		0	4.6	10	11	55	350	43	13	1.8	0	.20
22		0	4.3	80	11	51	443	41	12	1.6	0	.30
23		0	4.0	24	11	47	285	39	12	1.5	.10	.50
24		0	4.0	415	10	46	363	37	11	1.5	.10	.50
25		0	3.6	213	26	42	249	36	10	1.4	.10	.40
26		0	4.3	62	18	41	202	35	9.9	1.4	.10	.40
27		.10	4.3	43	12	38	175	34	9.4	1.4	.10	.40
28		.50	3.6	32	10	38	163	34	9.8	1.2	0	.40
29		.60	3.6	132	-----	53	127	35	7.8	1.2	0	.40
30		.50	3.6	465	-----	45	108	34	6.7	1.4	0	.40
31		-----	3.6	332	-----	166	-----	35	-----	1.2	0	-----
Total	0	1.70	3,513.90	1,875.1	663	2,763.9	6,893	1,780	5,46.6	86.7	4.90	6.60
Mean	0	0.06	113	60.5	23.7	89.2	230	57.4	19.2	2.80	0.16	0.22
Max	0	0.60	2,300	465	92	561	529	100	34	6.2	0.70	0.50
Min	0	0	0.40	3.0	10	9.9	97	34	6.7	1.2	0	0
Ac-ft	0	3.4	6,970	3,720	1,320	5,480	13,570	3,530	1,080	1.72	9.7	13

Cal yr 1966: Total 4,849.20 Mean 13.3 Max 2,300 Min 0 Ac-ft 9,620
Wtr yr 1967: Total 18,135.40 Mean 49.7 Max 2,300 Min 0 Ac-ft 35,970

Peak discharge (base, 300 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-06	0900	8.26	4,140	3-14	0500	4.09	650	4-07	0800	4.80	1,050	4-21	2330	4.23	720
1-24	1200	4.91	1,130	3-16	1300	4.98	1,160	4-11	0330	3.80	520	4-24	0200	3.54	437
1-29	1500	3.42	405	3-31	1500	2.97	307	4-15	1700	3.30	376				
1-30	2100	5.90	1,820	4-04	2000	4.52	882	4-19	0300	4.33	772				

TULARE LAKE BASIN

607

11-2210. PINE FLAT RESERVOIR NEAR PIEDRA, CALIF.

LOCATION.--Lat 36°49'55", long 119°19'25", in NE¼ sec.2, T.13 S., R.25 E., near center of Pine Flat Dam on Kings River, 1.9 miles upstream from Mill Creek, 3.5 miles northeast of Piedra, and 16 miles northeast of Sanger.

DRAINAGE AREA.--1,545 sq mi.

RECORDS AVAILABLE.--October 1951 to September 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is at mean sea level (levels by Corps of Engineers). Prior to Apr. 8, 1952, non-recording mercury gage on dam at same datum.

EXTREMES.--Maximum contents during year, 1,009,000 acre-ft July 15 (elevation, 952.76 ft); minimum, 208,300 acre-ft Oct. 6, 7, 9 (elevation, 762.67 ft).

1951-67: Maximum contents, 1,009,000 acre-ft July 15, 1967 (elevation, 952.76 ft); minimum since appreciable storage first obtained, 109,100 acre-ft Oct. 4, 1961 (elevation, 717.66 ft).

REMARKS.--Reservoir is formed by gravity-type concrete dam; regulation of discharge from reservoir began Dec. 4, 1951. Total capacity, 1,001,500 acre-ft between elevations 565.5 (bottom of lower tier of river out-lets) and 951.5 ft (gross pool elevation). No dead storage. Reservoir is used for flood control and conservation storage. Water is released down Kings River for diversion by the Kings River Water Association. Records, including extremes, represent contents at 2400 hours. See schematic diagram for Kings River basin.

COOPERATION.--Records furnished by Corps of Engineers.

CAPACITY TABLE (ELEVATION, IN FEET, AND CONTENTS, IN ACRE-FT)

715	104,400	840	457,800
720	113,400	860	538,800
740	154,000	890	673,400
760	201,400	920	824,200
780	255,400	950	992,600
800	316,200	960	1,052,800
820	383,600		

Contents, in thousands of acre-feet, at 2400 hours, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	210.5	231.2	275.1	561.8	652.7	702.5	781.8	840.8	842.7	969.9	953.3	736.8
2	209.9	232.3	277.4	564.3	656.9	699.1	783.2	836.3	838.0	979.1	952.6	731.9
3	209.4	233.4	284.5	566.9	660.4	695.9	783.8	831.9	833.3	986.1	946.6	727.4
4	208.7	234.5	287.4	569.3	663.7	692.5	786.9	827.2	829.7	990.5	940.4	723.5
5	203.5	235.6	313.5	572.0	666.9	689.0	791.8	821.9	827.2	993.9	934.4	720.0
6	208.3	236.9	433.4	574.6	670.0	685.7	795.8	815.9	823.5	994.3	928.1	715.9
7	208.3	238.2	463.1	577.2	672.6	682.3	803.9	810.8	822.1	995.3	921.0	711.6
8	203.5	239.7	474.5	579.3	675.7	678.9	810.4	806.4	822.6	999.1	913.7	706.9
9	208.3	241.2	482.4	580.6	673.6	675.7	816.1	802.7	824.7	1,000.2	906.3	702.8
10	208.7	242.5	488.3	581.4	681.4	672.3	821.7	799.2	823.1	1,001.0	899.1	693.9
11	209.5	243.9	493.1	582.2	684.2	670.9	829.5	792.3	831.9	1,001.7	891.9	695.6
12	210.2	245.1	498.1	583.1	687.3	673.0	836.1	784.2	836.1	1,003.2	885.0	692.5
13	210.9	246.2	502.6	584.0	690.4	677.9	841.3	775.2	839.1	1,006.3	878.2	689.7
14	211.7	247.5	507.0	585.2	693.7	680.4	844.6	776.8	840.0	1,008.9	871.3	686.9
15	212.6	248.8	511.1	586.5	696.6	682.3	847.6	759.9	841.5	1,009.0	863.8	684.4
16	213.4	250.3	514.9	587.7	699.3	693.3	849.3	755.5	844.3	1,006.8	856.3	681.6
17	214.5	251.9	518.4	588.4	701.9	713.0	850.2	753.4	846.7	1,003.8	848.6	678.8
18	215.5	253.2	522.1	589.4	704.2	724.5	852.1	754.2	851.8	999.9	840.7	676.3
19	216.6	253.5	525.4	590.6	706.0	733.0	854.9	757.3	857.4	996.5	832.6	674.5
20	217.6	254.8	528.5	592.0	707.5	740.0	856.6	763.2	860.4	992.7	824.0	672.6
21	218.7	256.4	531.5	595.3	708.8	746.2	853.6	771.0	867.4	988.7	815.2	670.1
22	219.7	257.7	534.6	598.4	709.9	752.7	860.7	780.9	876.2	987.1	806.9	668.8
23	220.8	259.0	537.9	601.1	710.6	757.9	860.9	792.0	884.2	985.5	798.5	667.8
24	221.9	259.5	540.9	607.0	711.1	762.5	861.9	802.4	892.7	984.3	790.7	667.4
25	223.1	260.6	543.6	611.7	712.0	766.7	861.4	813.3	902.2	982.0	783.6	667.1
26	224.3	261.1	546.3	615.2	710.3	770.6	859.9	822.4	912.3	979.9	777.1	667.0
27	225.5	261.7	549.8	618.7	708.1	772.9	858.3	830.3	921.9	976.9	770.6	666.8
28	226.7	263.8	551.5	622.2	705.9	775.9	855.7	836.3	932.7	973.6	763.5	666.4
29	227.8	270.2	554.2	627.3	-----	777.2	851.5	840.8	944.7	970.4	756.6	666.1
30	228.8	273.2	556.8	636.3	-----	778.2	845.8	843.3	957.6	967.2	749.6	666.0
31	230.0	-----	559.4	646.8	-----	780.4	-----	844.9	-----	963.1	742.8	-----
(+)	770.87	786.09	864.85	884.34	896.75	911.64	924.04	923.88	944.04	944.98	904.24	888.44
(+)	+13.8	+43.2	+286.2	+87.4	+59.1	+74.5	+65.4	+112.7	+5.5	+220.3	-76.8	
Max	230.0	273.2	559.4	646.8	712.0	780.4	861.9	844.9	957.6	1,009.0	953.3	736.8
Min	208.3	231.2	275.1	561.8	652.7	670.9	781.8	753.4	822.1	963.1	742.8	666.0
(++)	1.051	4.29	1.78	2.46	4.49	6.84	7.44	1.982	2.351	4.333	4.017	2.578

Calendar year 1966..... + -18.1
Water year 1966-67..... + 454.8

Max 697.0
Min 208.3
Max 1,009.0
Min 208.3

+ Elevation, in feet, at end of month.

+ Change in contents, in thousands of acre-feet.

++ Evaporation, in acre-feet.

TULARE LAKE BASIN

11-2215. KINGS RIVER BELOW PINE FLAT DAM, CALIF.

LOCATION.--Lat 36°49'50", long 119°20'05", in NW¼ sec.2, T.13 S., R.24 E., on right bank 3,200 ft downstream from Pine Flat Dam and 2.9 miles northeast of Piedra.

DRAINAGE AREA.--1,545 sq mi.

RECORDS AVAILABLE.--October 1953 to September 1967. Monthly and yearly discharges only and adjusted flow for some periods published in WSP 1735.

GAGE.--Digital water-stage recorder and concrete control. Datum of gage is 556.97 ft above mean sea level (levels by Corps of Engineers). Prior to Oct. 1, 1956, graphic water-stage recorder at site 0.2 mile downstream at datum 3.48 ft lower, Oct. 1, 1956, to Sept. 27, 1964, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--14 years, 2,142 cfs (1,551,000 acre-ft per year), adjusted for change in storage and evaporation.

EXTREMES.--Maximum discharge during year, 15,400 cfs July 3 (gage height, 10.05 ft); minimum daily, 28 cfs Dec. 10.

1953-67: Maximum discharge, 15,400 cfs July 3, 1967 (gage height, 10.05 ft); minimum, 1.1 cfs Feb. 26, 27, 1962.

REMARKS.--Records excellent. Flow regulated by Pine Flat Reservoir (see sta. no. 2210) and Wishon and Court-right Reservoirs (see Sta. nos. 2145.5 and 2148). See schematic diagram for Kings River basin.

COOPERATION.--Eleven discharge measurements furnished by Kings River Water Association.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.		
1	986	71	90	211	54	2,970	1,950	5,380	9,730	13,500	7,740	5,190		
2	976	71	103	211	151	3,020	2,130	5,630	9,770	14,700	7,930	4,750		
3	967	71	99	209	212	3,040	2,210	5,760	9,930	15,000	7,930	4,600		
4	933	72	77	209	141	3,030	1,900	6,260	9,860	14,800	7,730	4,600		
5	746	72	79	231	159	3,120	955	6,460	9,800	14,300	7,440	4,540		
6	715	70	47	232	152	3,080	1,130	6,750	9,530	13,400	7,400	4,470		
7	668	70	37	232	142	2,980	878	7,000	9,400	12,100	7,410	4,340		
8	544	71	104	233	171	3,030	686	7,550	9,380	10,700	7,080	4,190		
9	451	70	56	233	144	3,050	747	8,210	9,200	10,500	7,020	4,020		
10	440	70	28	233	131	2,950	658	8,670	9,030	10,000	6,960	3,910		
11	304	71	59	235	138	2,800	296	8,840	9,100	9,830	6,910	3,510		
12	304	71	79	235	138	2,270	325	9,080	9,070	9,840	6,680	3,270		
13	324	71	94	235	144	1,730	808	9,180	9,130	9,810	6,640	3,150		
14	256	72	104	236	142	1,740	2,020	9,230	9,380	10,400	6,760	3,120		
15	150	51	111	237	118	1,910	2,760	9,440	9,660	11,100	6,930	2,920		
16	150	51	166	237	129	1,670	2,890	9,660	9,840	11,300	7,030	2,960		
17	136	50	174	237	142	837	3,210	9,920	9,990	11,300	7,060	2,970		
18	111	50	177	256	146	197	3,430	9,760	10,100	10,800	7,040	2,940		
19	110	50	178	258	451	272	3,520	9,120	10,300	10,000	6,970	2,840		
20	123	50	222	259	548	241	3,610	9,310	10,400	9,510	7,020	2,800		
21	140	51	215	256	602	222	3,700	9,280	10,500	9,130	6,910	2,960		
22	156	51	209	206	690	303	3,710	9,640	10,700	7,730	6,750	2,350		
23	110	51	209	216	906	674	4,200	9,780	10,700	7,170	6,630	2,000		
24	61	51	209	168	1,150	1,120	4,150	9,970	10,700	6,990	6,440	1,880		
25	72	50	210	49	1,100	1,010	4,300	10,300	10,700	7,630	6,320	1,800		
26	72	64	211	153	2,060	1,020	4,690	10,500	10,900	7,540	6,070	1,720		
27	72	65	211	188	2,410	1,570	4,930	10,400	11,600	7,630	5,810	1,710		
28	71	80	208	139	2,470	1,700	5,080	10,300	12,100	7,690	5,750	1,730		
29	71	89	207	79	-----	2,120	5,260	10,200	12,200	7,650	5,680	1,710		
30	72	90	207	46	-----	2,360	5,340	10,100	12,800	7,620	5,610	1,600		
31	72	-----	209	34	-----	2,160	-----	9,940	-----	7,620	5,610	-----		
TOTAL	10,363	1,937	4,389	6,193	14,941	58,196	81,473	271,620	305,500	317,290	211,260	94,550		
MEAN	334	64.6	142	200	534	1,877	2,716	8,762	10,180	10,240	6,815	3,152		
MAX	986	90	222	259	2,470	3,120	5,340	10,500	12,800	15,000	7,930	5,190		
MIN	61	50	28	34	54	197	296	5,380	9,030	6,990	5,610	1,600		
AC-FT	20,550	3,840	8,710	12,280	29,640	115,400	161,600	538,800	606,000	629,300	419,000	187,500		
MEAN †	128	470	4,794	1,558	1,743	3,326	3,493	9,751	13,950	10,460	2,653	1,178		
AC-FT†	7,900	27,970	294,800	95,930	96,790	204,500	207,300	599,600	830,500	643,200	163,100	70,080		
CAL YR 1966:	TOTAL	705,504	MEAN	1,933	MAX	6,020	MIN	28	AC-FT	1,399,000	MEAN †	1,930	AC-FT †	1,397,000
WAT YR 1967:	TOTAL	1,377,712	MEAN	3,775	MAX	15,000	MIN	28	AC-FT	2,733,000	MEAN †	4,478	AC-FT †	3,242,000

† Adjusted for change in contents in Wishon, Courtright, and Pine Flat Reservoir and for evaporation in Pine Flat Reservoir.

TULARE LAKE BASIN

609

11-2217. MILL CREEK NEAR PIEDRA, CALIF.

LOCATION.--Lat 36°49'05", long 119°20'25", in NE¼ sec.10, T.13 S., R.24 E., on left bank 150 ft upstream from road bridge, 0.7 mile upstream from mouth, and 2.3 miles east of Piedra.

DRAINAGE AREA.--120 sq mi.

RECORDS AVAILABLE.--October 1957 to September 1967 in reports of Geological Survey. November 1938 to September 1957 in reports of Kings River Water Association.

GAGE.--Graphic water-stage recorder and concrete control. Altitude of gage is 550 ft (from topographic map). Prior to July 14, 1958, at site 150 ft upstream at same datum.

AVERAGE DISCHARGE.--10 years, 33.2 cfs (24,040 acre-ft per year); median of yearly mean discharges, 12 cfs (8,700 acre-ft per year).

EXTREMES.--Maximum discharge during year, 11,000 cfs Dec. 6 (gage height, 9.53 ft in gage well, 10.2 ft from floodmarks); no flow for many days.
1957-67: Maximum discharge, 11,000 cfs Dec. 6, 1966 (gage height, 9.53 ft in gage well, 10.2 ft from floodmarks); no flow for several months in most years.

REMARKS.--Records good. Some small diversions above station for irrigation. See schematic diagram for Kings River basin.

COOPERATION.--Five discharge measurements furnished by Kings River Water Association.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	17	292	32	306	243	84	18	2.1	0
2			0	16	192	32	261	239	82	18	2.1	0
3			15	16	146	30	207	227	78	17	1.8	0
4			20	15	122	33	377	243	73	17	1.5	0
5			368	15	104	33	674	286	75	17	1.2	0
6			6,370	15	91	23	391	222	75	17	1.0	0
7			387	15	82	27	683	213	73	16	1.0	0
8			172	14	74	27	557	227	69	15	1.0	0
9			146	14	71	26	386	231	69	15	.80	0
10			104	13	67	26	326	346	64	15	.80	0
11			71	13	60	35	687	252	62	14	.40	0
12			60	14	56	239	476	200	60	13	.20	0
13			49	13	54	472	371	177	60	12	.10	0
14			41	12	53	333	331	163	60	11	0	0
15			35	12	49	188	381	155	54	11	0	0
16			30	12	43	495	361	152	50	13	0	0
17			29	12	44	434	286	152	48	11	0	0
18			27	12	41	272	572	142	44	10	0	0
19			24	12	40	209	800	138	44	9.4	0	0
20			23	11	36	172	713	123	42	7.9	0	0
21			22	17	35	149	622	126	38	7.9	0	.60
22			22	60	33	132	779	113	34	7.2	0	.60
23			20	48	33	122	534	111	34	6.5	0	.80
24			20	232	33	112	643	104	32	5.9	0	1.2
25			20	353	46	100	487	97	30	5.3	0	1.2
26			20	140	46	95	401	93	28	4.7	0	1.2
27			20	102	36	89	361	91	26	4.1	0	1.5
28			13	84	32	89	326	91	22	3.6	0	1.2
29			13	129	-----	114	321	91	22	3.6	0	1.2
30			13	476	-----	97	261	89	20	3.2	0	1.2
31		-----	13	771	-----	262	-----	84	-----	2.8	0	-----
Total	0	0	9,188	2,685	2,016	4,504	13,881	5,236	1,552	332.1	14.00	10.70
Mean	0	0	296	86.6	72.0	145	463	169	51.7	10.7	0.45	0.36
Max	0	0	6,370	771	292	495	800	346	84	18	2.1	1.5
Min	0	0	0	11	32	26	207	84	20	2.8	0	0
Ac-ft	0	0	18,220	5,330	4,000	8,930	27,530	10,390	3,080	659	28	21

Cal yr1966: Total 11,209.1 Mean 30.7 Max 6,370 Min 0 Ac-ft 22,230
Wtr yr1967: Total 39,418.80 Mean 108 Max 6,370 Min 0 Ac-ft 78,190

Peak discharge (base, 250 cfs)

Peak discharge (base, 250 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-6	1000	9.53	11,000	3-16	1600	4.65	924	4-11	0600	4.70	970	4-24	0500	4.40	720
1-24	2000	4.29	642	3-31	2300	4.04	490	4-15	2000	4.10	522	5-04	2200	3.88	401
1-30	2300	5.74	2,070	4-04	2300	4.86	1,110	4-19	1600	4.80	1,060	5-10	0700	3.82	376
3-13	0700	4.32	664	4-07	1200	4.72	988	4-22	0300	4.83	1,090				

TULARE LAKE BASIN

11-2245. LOS GATOS CREEK ABOVE NUNEZ CANYON, NEAR COALINGA, CALIF.

LOCATION.--Lat 36°12'55", long 120°28'10", in NE¼SW¼ sec.5, T.20 S., R.14 E., on right bank 50 ft downstream from highway bridge, 1.1 miles upstream from Nunez Canyon, 3.0 miles downstream from White Creek, and 8 miles northwest of Coalinga.

DRAINAGE AREA.--95.8 sq mi.

RECORDS AVAILABLE.--May 1945 to September 1967. Prior to October 1949 monthly discharge only, published in WSP 1315-A.

GAGE.--Graphic water-stage recorder. Altitude of gage is 1,100 ft (from topographic map). Prior to Aug. 2, 1959, at site 100 ft downstream at same datum.

AVERAGE DISCHARGE.--22 years, 3.01 cfs (2,180 acre-ft per year); median of yearly mean discharges, 0.9 cfs (650 acre-ft per year).

EXTREMES.--Maximum discharge during year, 1,980 cfs Dec. 6 (gage height, 7.61 ft in gage well, 9.29 ft from floodmarks), from rating curve extended above 750 cfs on basis of contracted-opening measurement of peak flow; no flow for many days.

1949-67: Maximum discharge, 2,560 cfs Apr. 3, 1958, Feb. 9, 1962, from rating curve extended above 110 cfs and 180 cfs on basis of contracted-opening measurements of maximum flow; maximum gage height, 7.61 ft in gage well, 9.29 ft from floodmarks Dec. 6, 1966; no flow for several months each year.

REMARKS.--Records good except those for period of no gage-height record, which are fair. Minor diversion for irrigation and stock ponds.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	1.3	1.3	4.2	1.4	2.2	7.6	0.50	0.10	0.10
2			0	1.3	1.2	3.9	1.4	2.1	7.6	.40	.10	.10
3			3.9	1.3	1.2	4.2	1.3	1.9	7.2	.30	.10	.10
4			.10	1.2	1.0	4.5	1.4	1.9	6.8	.20	.10	.10
5			8.7	1.2	9.6	4.2	1.4	1.8	7.2	.20	.10	0
6			35.9	1.2	9.2	3.9	1.6	1.8	7.2	.20	.10	0
7			8.0	1.2	3.4	3.9	4.6	1.5	5.4	.10	.10	0
8			2.6	1.2	7.6	3.6	2.3	1.5	6.0	.20	.10	0
9			1.4	1.1	8.0	3.6	2.4	1.5	5.6	.20	.10	0
10			5.8	1.1	3.0	3.9	1.7	1.6	5.6	.20	.10	0
11			2.8	1.1	7.6	9.2	3.2	1.5	5.2	.20	.10	0
12			1.5	1.1	7.6	6.5	2.1	1.4	4.8	.20	.10	0
13			.90	1.0	6.8	6.8	1.7	1.4	4.8	.20	.10	0
14			2.2	1.0	6.4	5.3	1.6	1.2	4.5	.20	.10	0
15			4.6	1.0	6.0	4.1	1.8	1.3	4.2	.20	.10	0
16			4.0	1.0	6.0	8.4	1.7	1.3	3.9	.10	.10	.10
17			3.2	1.0	6.0	4.6	1.6	1.2	3.3	.10	.10	.10
18			2.7	1.0	5.6	3.5	2.9	1.1	2.7	.20	.10	.10
19			2.5	1.0	5.6	2.7	3.5	1.1	2.7	.20	.10	.10
20			2.2	1.0	5.2	2.2	3.1	1.1	2.5	.20	.10	.10
21			2.1	1.4	5.2	1.9	4.5	1.0	2.5	.10	.10	.10
22			1.9	1.6	4.8	1.7	3.6	9.6	2.2	.10	.10	.10
23			1.8	1.5	4.8	1.5	3.8	9.2	2.0	.10	.10	.10
24			1.7	21.1	4.8	1.4	3.9	8.8	1.7	.10	.10	.10
25			1.7	3.8	7.6	1.4	3.2	3.4	1.6	.10	.10	.10
26			1.6	1.4	5.6	1.3	2.9	3.4	1.4	.10	.10	.10
27			1.6	1.2	4.8	1.3	2.8	8.0	1.2	.10	.10	.10
28			1.5	9.6	4.2	1.3	2.6	9.0	1.4	.10	.10	.10
29			1.5	8.8	-----	1.4	2.6	8.0	1.0	.10	.10	.10
30			1.4	3.1	-----	1.6	2.3	7.6	.70	.10	.10	3.1
31		-----	1.4	1.9	-----	2.7	-----	6.8	-----	.10	.10	-----
Total	0	0	1,125.60	384.6	202.4	664.1	74.9	395.8	121.50	5.40	3.10	4.90
Mean	0	0	36.3	12.4	7.23	21.4	25.0	12.8	4.05	0.17	0.10	0.16
Max	0	0	85.9	21.1	1.3	8.4	4.6	2.2	7.6	0.50	0.10	3.1
Min	0	0	0	1.0	4.2	3.6	1.3	6.8	0.70	0.10	0.10	0
Ac-ft	0	0	2,230	763	401	1,320	1,490	785	241	11	6.2	9.7

Cal yr 1966: Total 1,509.50 Mean 4.14 Max 35.9 Min 0 Ac-ft 2,990
 Wtr yr 1967: Total 3,556.40 Mean 10.0 Max 35.9 Min 0 Ac-ft 7,250

Peak discharge (base, 40 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-03	0330	4.12	40	3-31	0200	4.77	67
12-06	1500	7.61	1,980	4-07	0300	4.72	59
1-22	0600	4.78	59	4-11	0300	4.68	53
1-24	1100	6.55	890	4-19	2100	4.74	62
1-30	1600	5.03	112	4-21	1600	4.77	67
3-12	2400	5.08	122	4-23	2300	4.75	64
3-16	1100	5.46	239				

Note.--No gage-height record Dec. 16 to Jan. 19.

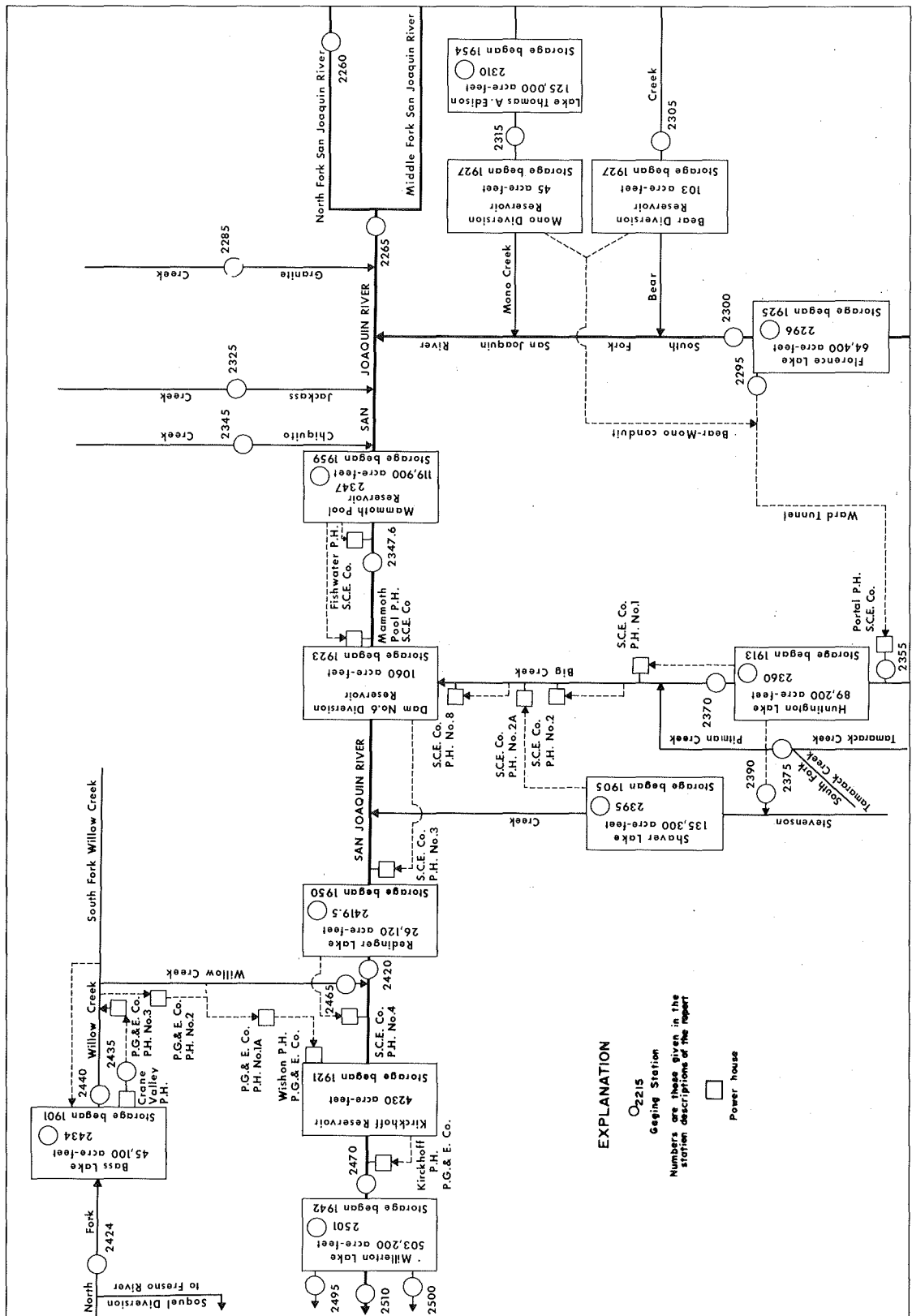


Figure 3.--Schematic diagram showing diversions and storage in San Joaquin River basin.

SAN JOAQUIN RIVER BASIN

11-2260. NORTH FORK SAN JOAQUIN RIVER BELOW IRON CREEK, CALIF.

LOCATION.--Lat 37°36'50", long 119°14'00", in SE $\frac{1}{4}$ sec.4, T.4 S., R.25 E., on right bank 0.8 mile downstream from Iron Creek and 27 miles northeast of town of Bass Lake.

DRAINAGE AREA.--35.5 sq mi.

RECORDS AVAILABLE.--October 1920 to September 1928 (fragmentary prior to July 1921), October 1951 to September 1958 (no winter records), October 1958 to September 1967. Monthly discharge only for some periods, published in WSP 1315-A.

GAGE.--Graphic water-stage recorder. Altitude of gage is 6,800 ft (from topographic map). Prior to May 22, 1922, staff gages at approximately same site at different datums.

AVERAGE DISCHARGE.--16 years (1921-28, 1958-67), 111 cfs (80,360 acre-ft per year).

EXTREMES.--Maximum discharge during year, 2,300 cfs July 13 (gage height, 7.50 ft), from rating curve extended above 1,100 cfs; minimum daily, 2.1 cfs Nov. 2, 5.
1920-28, 1951-67: Maximum discharge recorded, 3,860 cfs July 24, 1956 (gage height, 8.15 ft), from rating curve extended above 1,100 cfs; minimum, 0.4 cfs Nov. 13, 1955, Jan. 17, 1963.

REMARKS.--Records good. No storage or diversion above station. See schematic diagram of San Joaquin River basin.

COOPERATION.--Gage-height record and six discharge measurements furnished by Southern California Edison Co. in connection with a Federal Power Commission project.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8.2	2.2	60	19	26	28	32	26	214	1,270	325	116
2	8.5	2.1	46	18	24	29	29	29	160	1,260	330	111
3	8.2	2.2	58	18	23	30	27	38	180	1,160	321	114
4	7.7	2.2	48	18	24	29	26	45	279	1,130	285	131
5	6.9	2.1	49	18	26	26	26	39	281	980	264	144
6	6.6	2.6	186	17	27	27	26	48	285	970	235	111
7	6.6	4.8	101	17	32	27	26	105	431	885	205	97
8	6.1	6.1	58	16	34	30	26	183	517	768	180	90
9	5.6	5.9	47	16	38	33	29	189	548	686	185	81
10	5.2	6.9	42	16	44	33	30	126	561	649	211	60
11	5.2	9.5	39	17	40	32	29	85	574	718	211	52
12	5.0	7.2	38	18	38	32	28	63	535	813	211	54
13	4.8	7.2	37	19	36	38	29	69	487	1,050	214	57
14	4.4	6.1	34	20	31	42	31	96	561	718	196	56
15	4.2	5.9	33	20	28	47	31	178	663	607	172	53
16	3.6	14	34	19	26	233	29	301	759	600	214	46
17	3.8	16	35	19	26	152	29	415	867	523	309	44
18	3.3	14	34	19	29	88	29	475	940	523	260	67
19	3.3	15	33	18	32	60	29	499	795	505	190	78
20	3.5	26	32	20	28	51	29	580	750	448	164	58
21	3.5	25	31	29	28	48	27	702	894	442	167	47
22	3.6	29	28	26	29	53	26	768	831	436	151	43
23	3.5	24	26	26	29	49	25	734	742	431	142	46
24	3.2	20	25	25	28	41	24	718	813	442	138	57
25	3.0	18	24	28	26	40	24	678	867	470	167	56
26	2.9	18	22	31	25	34	26	670	849	448	146	47
27	2.9	20	23	28	25	37	29	621	894	415	129	52
28	2.8	358	24	27	26	45	26	499	950	415	114	50
29	2.6	250	22	30	---	39	26	436	1,050	405	104	45
30	2.5	94	21	28	---	34	24	442	1,180	395	109	42
31	2.3	---	20	29	---	41	---	348	---	361	113	---
Total	143.5	1,014.0	1,310	669	828	1,528	827	10,205	19,457	20,923	6,162	2,105
Mean	4.63	33.8	42.3	21.6	29.6	49.3	27.6	329	649	675	199	70.2
Max	8.5	358	186	31	44	233	32	768	1,180	1,270	330	144
Min	2.3	2.1	20	16	23	26	24	26	160	361	104	42
Ac-ft	285	2,010	2,600	1,330	1,640	3,030	1,640	20,240	38,590	41,500	12,220	4,180

Cal yr 1966: Total	38,113.7	Mean	104	Max	505	Min	21	Ac-ft	75,600
Wtr yr 1967: Total	65,171.5	Mean	179	Max	1,270	Min	21	Ac-ft	129,300

11-2265. SAN JOAQUIN RIVER AT MILLER CROSSING, CALIF.

LOCATION.--Lat 37°30'35", long 119°11'50", in NE $\frac{1}{4}$ sec.11, T.5 S., R.25 E., on right bank at Miller Crossing, 2.4 miles downstream from North Fork San Joaquin River, 4.6 miles east of Clover Meadow ranger station, and 23 miles northeast of town of Bass Lake.

DRAINAGE AREA.--249 sq mi.

RECORDS AVAILABLE.--October 1921 to September 1928, October 1951 to September 1967. Monthly discharge only for some periods, published in WSP 1315-A. Prior to October 1954, published as Middle Fork San Joaquin River at Miller Bridge.

GAGE.--Graphic water-stage recorder. Altitude of gage is 4,570 ft (from topographic map). Prior to Mar. 24, 1922, staff gage at same site and datum.

AVERAGE DISCHARGE.--23 years, 589 cfs (426,400 acre-ft per year).

EXTREMES.--Maximum discharge recorded during year, 7,680 cfs July 1 (gage height, 18.10 ft); minimum, not determined.

1921-28, 1951-67: Maximum discharge, 16,600 cfs Dec. 23, 1955 (gage height, 21.28 ft), from rating curve extended above 5,100 cfs on basis of contracted-opening measurement of maximum flow; minimum, 19 cfs Nov. 17, 1961.

REMARKS.--Records good except those for period of no gage-height record, which are poor. No regulation or diversion above station. See schematic diagram of San Joaquin River basin.

COOPERATION.--Gage-height record and four discharge measurements furnished by Southern California Edison Co. in connection with a Federal Power Commission project.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	56							-	1,770	6,270	1,510	439
2	57							-	1,500	6,060	1,460	488
3	58							-	1,590	5,600	1,440	488
4	56							-	1,840	5,230	1,330	600
5	55							-	1,830	4,750	1,240	730
6	54							-	1,940	4,400	1,110	568
7	53							-	2,580	4,220	962	488
8	52							-	2,980	3,800	845	430
9	50							-	3,270	3,390	800	388
10	48							-	3,320	3,080	885	328
11	47							-	3,600	3,130	865	285
12	46							-	3,530	3,320	840	265
13	44							-	3,180	3,780	855	260
14	43							-	3,080	3,910	830	252
15	42							-	3,570	3,270	770	240
16	39							-	3,940	3,260	845	224
17	35							-	4,440	2,880	1,060	214
18	36							-	5,020	2,670	956	240
19	33							-	4,680	2,540	785	280
20	33							-	4,480	2,260	684	240
21	34							-	5,280	2,110	676	212
22	35							-	5,130	2,080	620	202
23	35							-	4,810	2,010	584	208
24	34							-	4,730	2,020	580	212
25	33							4,480	4,960	2,080	632	238
26	31							4,480	5,020	2,030	604	208
27	31							4,220	5,080	1,900	544	210
28	31							3,650	5,240	1,830	500	208
29	31							3,280	5,670	1,820	445	200
30	31							2,960	5,920	1,760	433	198
31	31	- - - - -			- - - - -		- - - - -	2,440	- - - - -	1,640	439	- - - - -
Total	1,294	4,050	8,525	4,185	5,320	9,920	5,400	68,200	113,980	99,100	26,129	9,543
Mean	41.7	135	275	135	190	320	180	2,200	3,799	3,197	843	318
Max	58	-	-	-	-	-	-	-	5,920	6,270	1,510	730
Min	31	-	-	-	-	-	-	-	1,500	1,640	433	198
Ac-ft	2,570	8,030	16,910	8,300	10,550	19,680	10,710	135,300	226,100	196,600	51,830	18,930
Cal yr 1966: Total	180,177			Mean 494	Max 2,430	Min -		Ac-ft 357,400				
Wtr yr 1967: Total	355,646			Mean 974	Max 6,270	Min -		Ac-ft 705,400				

Peak discharge (base, 2,000 cfs)

Note.--No gage-height record Nov. 1 to May 24.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 6	-	-	-	5-22	-	-	-
3-16	-	-	-	7- 1	1700	18.10	7,680

SAN JOAQUIN RIVER BASIN

11-2285. GRANITE CREEK NEAR CATTLE MOUNTAIN, CALIF.

LOCATION.--Lat 37°31'35", long 119°15'30", in NE $\frac{1}{4}$ sec.5, T.5 S., R.25 E., on right bank 0.7 mile downstream from confluence of East and West Forks of Granite Creek, 1.6 miles northwest of Cattle Mountain, and 21 miles northeast of town of Bass Lake.

DRAINAGE AREA.--47.8 sq mi.

RECORDS AVAILABLE.--October 1921 to September 1928, May 1952 to September 1967 (no winter records). Monthly discharge only for some periods, published in WSP 1315-A.

GAGE.--Graphic water-stage recorder. Altitude of gage is 6,800 ft (from topographic map). Prior to May 14, 1922, staff gage at same site at different datum.

AVERAGE DISCHARGE.--7 years (1921-28), 110 cfs (79,640 acre-ft per year).

EXTREMES.--Maximum discharge recorded during year, 2,450 cfs July 13 (gage height, 9.02 ft), from rating curve extended above 1,100 cfs; minimum daily, 0.20 cfs Oct. 1-31.

1921-28, 1952-67: Maximum discharge recorded, 3,140 cfs Dec. 23, 1964 (gage height, 9.49 ft), from rating curve extended above 1,100 cfs; no flow at times in 1924, 1926.

REMARKS.--Records good. No regulation or diversion above station. See schematic diagram of San Joaquin River basin.

COOPERATION.--Gage-height record and three discharge measurements furnished by Southern California Edison Co. in connection with a Federal Power Commission project.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.20							51	369	1,590	126	14
2	.20							54	290	1,480	112	15
3	.20							60	372	1,260	111	19
4	.20							73	484	1,200	96	17
5	.20							69	484	965	81	20
6	.20							92	468	938	70	15
7	.20							179	668	798	58	12
8	.20							288	750	668	48	11
9	.20							333	806	600	43	9.6
10	.20							252	790	564	44	8.8
11	.20							177	758	600	46	7.4
12	.20							149	743	674	43	6.7
13	.20							157	701	966	42	6.0
14	.20							219	782	722	39	5.7
15	.20							354	929	596	41	5.7
16	.20							504	1,140	568	66	5.4
17	.20							596	1,310	508	130	5.0
18	.20							680	1,380	476	149	10
19	.20							729	1,150	405	66	19
20	.20							848	1,280	351	63	13
21	.20							1,010	1,430	327	51	9.6
22	.20							893	1,220	312	68	9.2
23	.20							1,120	1,100	280	40	9.2
24	.20							1,250	1,220	270	31	11
25	.20							1,060	1,260	280	34	13
26	.20							965	1,210	250	42	9.2
27	.20							938	1,240	219	29	7.4
28	.20							766	1,310	205	29	6.4
29	.20							680	1,400	191	19	6.0
30	.20							632	1,520	175	16	5.7
31	.20	- - - - -			- - - - -		- - - - -	536	- - - - -	155	15	- - - - -
Total	6.20	-	-	-	-	-	-	15,714	28,564	18,593	1,848	312.0
Mean	.20	-	-	-	-	-	-	507	952	600	59.6	10.4
Max	.20	-	-	-	-	-	-	1,250	1,520	1,590	149	20
Min	.20	-	-	-	-	-	-	51	290	155	15	5.0
Ac-ft	12	-	-	-	-	-	-	31,170	56,660	36,880	3,670	619
Cal yr	: Total		Mean		Max		Min		Ac-ft			
Wtr yr	: Total		Mean		Max		Min		Ac-ft			

11-2295. WARD TUNNEL INTAKE AT FLORENCE LAKE, CALIF.

LOCATION.--Lat 37°16'25", long 118°58'25", in NW¼ sec.1, T.8 S., R.27 E., in gatehouse at entrance to tunnel.

RECORDS AVAILABLE.--April 1925 to September 1967. Monthly discharge only for some periods, published in WSP 1315-A. Published as Florence Lake tunnel at intake 1925-36 and as Ward tunnel at intake 1937-62.

GAGE.--Graphic water-stage recorder, concrete control, and Venturi meter. Datum of gage is 7,213.89 ft above mean sea level (levels by Southern California Edison Co.).

AVERAGE DISCHARGE.--42 years, 276 cfs (199,800 acre-ft per year).

EXTREMES.--1925-67: Maximum daily discharge, 1,990 cfs Apr. 30, 1926; no flow at times.

REMARKS.--Records excellent. Ward tunnel diverts from Florence Lake, a reservoir on South Fork San Joaquin River, to Huntington Lake for use in Big Creek powerplants. See schematic diagram of San Joaquin River basin.

COOPERATION.--Gage-height record, one discharge measurement, and rating table for Venturi meter furnished by Southern California Edison Co. in connection with a Federal Power Commission project.

REVISIONS.--Revised figures of discharge for the water years 1965-66, superseding those published in Basic Data Reports, are given herein.

Discharge, in cubic feet per second, water year October 1964 to September 1965

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	20	0.30	0.60	554	118	120	118	842	1,130	546	375	677
2	20	.30	.60	534	119	110	116	750	1,220	548	670	672
3	18	.30	.60	513	120	107	110	620	1,230	554	794	671
4	18	.30	.60	555	120	110	106	488	1,230	740	793	669
5	18	.30	.60	594	122	107	112	405	1,150	901	790	666
6	17	.30	.60	666	117	105	115	359	1,030	973	630	663
7	16	.30	.60	644	105	97	117	326	955	1,010	378	660
8	15	.30	.60	494	100	96	115	298	930	1,020	378	655
9	15	.30	.60	277	96	92	110	282	942	1,020	378	651
10	16	.30	.60	203	85	92	108	274	951	966	376	672
11	16	.40	.60	177	87	91	115	286	969	897	380	690
12	16	.40	.80	157	85	93	123	310	998	720	857	686
13	16	.40	.80	139	83	90	124	370	1,020	595	1,200	683
14	16	.50	72	135	86	92	123	432	932	516	1,190	569
15	16	.50	221	136	81	91	137	477	880	373	1,250	504
16	15	.60	233	135	81	90	156	653	884	720	1,300	502
17	15	.60	225	129	82	91	170	900	884	613	1,300	502
18	13	.60	431	124	85	97	168	1,060	881	653	1,400	502
19	13	.60	479	124	90	99	218	1,170	880	863	1,440	502
20	13	.60	385	123	97	115	284	1,220	881	887	947	535
21	13	.60	276	118	105	127	296	1,210	890	839	700	606
22	13	.60	161	117	110	139	361	1,140	899	780	700	600
23	13	.60	140	112	102	149	359	987	911	750	699	593
24	13	.60	.40	114	101	131	386	678	825	750	696	586
25	13	.60	.60	106	105	113	459	569	522	749	693	582
26	13	.60	.70	116	115	112	521	828	528	747	688	579
27	8.6	.60	.80	114	134	109	595	929	528	746	686	569
28	.30	.60	.80	108	129	107	657	961	530	746	685	568
29	.30	.60	375	105	-----	112	762	688	535	745	682	546
30	.30	.60	582	106	-----	116	832	.70	540	582	680	526
31	.30	-----	570	114	-----	122	-----	538	-----	375	679	-----
Total	409.80	14.20	4,161.50	7,643	2,860	3,322	7,973	20,050.70	26,685	22,924	24,414	18,086
Mean	13.2	.47	134	247	102	107	266	647	890	739	788	603
Max	20	.60	582	666	134	149	832	1,220	1,230	1,020	1,440	690
Min	.30	.30	.40	105	81	90	106	.70	522	373	375	502
Ac-ft	813	28	8,250	15,160	5,670	6,590	15,810	39,770	52,930	45,470	48,420	35,870

Cal yr 1964: Total 68,819.5 Mean 188 Max 598 Min 30 Ac-ft 136,500
 Wtr yr 1965: Total 138,543.2 Mean 380 Max 1,440 Min 30 Ac-ft 274,800

11-2295. Ward tunnel intake at Florence Lake, Calif.--Continued

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	524	26	115	103	55	67	409	395	345	381	434	479
2	516	25	39	128	55	63	453	390	347	383	434	510
3	512	26	.80	140	57	59	479	331	347	381	432	502
4	506	26	.80	129	59	60	498	318	347	381	430	497
5	504	25	.70	117	61	64	470	327	348	381	410	453
6	497	25	.50	99	64	65	491	339	348	381	381	432
7	520	24	.80	88	65	70	491	351	351	381	381	428
8	533	22	.90	89	64	81	475	361	351	381	380	426
9	524	22	.90	84	64	84	493	371	351	380	378	423
10	516	22	183	83	63	116	550	380	351	378	378	419
11	508	21	276	81	59	140	577	386	351	378	376	417
12	499	22	250	77	61	157	586	388	563	378	414	459
13	491	30	220	76	58	196	533	441	822	376	484	473
14	482	73	183	76	56	187	491	437	762	376	480	470
15	471	102	123	77	54	161	506	417	428	375	477	464
16	425	146	66	75	54	162	497	398	294	375	475	457
17	409	187	55	72	55	140	502	324	294	371	473	452
18	393	178	56	68	57	146	514	253	295	371	470	448
19	373	146	60	66	58	152	491	278	296	370	468	446
20	351	117	62	63	59	136	522	376	348	370	466	437
21	326	100	62	61	63	127	571	398	499	370	462	434
22	298	99	57	59	69	138	582	356	501	368	461	425
23	262	197	52	57	72	177	580	337	444	366	405	417
24	216	169	53	54	72	200	579	566	444	366	380	414
25	146	190	53	54	67	174	508	672	443	364	378	410
26	54	191	52	53	65	182	489	677	443	417	376	453
27	34	173	54	52	63	209	480	682	443	443	393	466
28	32	150	54	50	65	240	469	685	444	441	410	457
29	30	136	53	49	---	272	466	700	400	439	409	446
30	28	126	41	50	---	304	473	720	381	439	409	435
31	26	---	73	53	---	350	---	473	---	437	416	---
Total	11,006	2,796	2,297.40	2,383	1,714	4,679	15,225	13,527	12,381	11,998	13,120	13,449
Mean	355	93.2	74.1	76.9	61.2	151	508	436	413	387	423	448
Max	533	197	276	140	72	350	586	720	822	443	484	510
Min	26	21	.50	49	54	59	409	253	294	364	376	410
Ac-ft	21,830	5,550	4,560	4,730	3,400	9,280	30,200	26,830	24,560	23,800	26,020	26,680

Cal yr 1965: Total 150,057.1 Mean 411 Max 1,440 Min .50 Ac-ft 297,600
Wtr yr 1966: Total 104,575.4 Mean 287 Max 822 Min .50 Ac-ft 207,400

11-2295. Ward tunnel intake at Florence Lake, Calif.--Continued

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	425	12	92	71	149	96	118	109	899	532	475	611
2	457	12	84	67	134	105	109	117	1,040	530	1,050	611
3	477	13	114	66	124	105	107	116	1,080	400	1,150	609
4	453	13	109	67	118	97	107	130	1,080	241	1,020	609
5	464	14	173	68	120	99	107	132	1,070	614	848	555
6	468	13	213	60	123	98	109	140	1,090	1,060	759	489
7	470	14	5.0	58	125	90	112	192	1,090	1,180	750	491
8	410	18	183	58	130	100	123	278	1,090	1,180	723	491
9	178	20	587	59	131	107	124	398	1,090	1,180	805	491
10	54	20	620	58	146	106	117	378	1,100	1,420	746	491
11	30	20	648	62	151	103	118	239	1,110	1,550	611	491
12	28	20	633	67	152	89	126	262	1,120	1,610	661	488
13	23	20	361	70	150	98	135	246	1,130	1,610	739	488
14	20	18	178	70	145	127	136	261	1,130	1,630	739	482
15	19	17	140	72	113	158	120	355	1,140	1,640	737	538
16	18	20	134	72	107	416	128	633	978	1,650	669	560
17	16	22	130	71	103	527	125	623	711	1,650	562	533
18	16	18	123	69	105	407	117	648	679	1,660	808	533
19	16	18	119	68	106	298	125	569	219	1,650	664	530
20	15	50	116	68	101	243	118	577	2.5	1,650	626	528
21	14	41	106	80	94	209	117	548	204	1,250	625	526
22	14	40	93	79	96	208	116	518	538	729	625	528
23	14	35	91	104	95	205	118	533	544	1,010	623	528
24	14	30	90	125	94	182	110	693	542	1,100	625	550
25	14	29	89	126	91	163	114	788	542	1,300	625	562
26	14	28	87	166	87	146	126	816	542	1,380	623	560
27	12	32	76	186	90	136	130	841	542	1,460	621	568
28	13	105	77	168	93	155	116	859	712	1,520	621	579
29	13	248	79	160	-----	143	109	874	552	1,180	620	577
30	12	130	79	157	-----	124	107	882	316	1,160	616	575
31	12	-----	71	152	-----	123	-----	894	-----	458	613	-----
Total	4,203	1,090	5,700.0	2,824	3,273	5,263	3,544	14,649	23,882.5	37,184	21,979	16,172
Mean	136	36.3	184	91.1	117	170	118	473	796	1,199	709	539
Max	477	248	648	186	152	527	136	894	1,140	1,660	1,150	611
Min	12	12	.50	58	87	89	107	109	2.5	241	475	482
Ac-ft	8,340	2,160	11,310	5,600	6,490	10,440	7,030	29,060	47,370	73,750	43,590	32,080

Cal yr 1966: Total 99,469.0 Mean 273 Max 822 Min 5.0 Ac-ft 197,300
Wtr yr 1967: Total 139,763.5 Mean 383 Max 1,660 Min 2.5 Ac-ft 277,200

SAN JOAQUIN RIVER BASIN

11-2296. FLORENCE LAKE NEAR BIG CREEK, CALIF.

LOCATION.--Lat 37°16'25", long 118°58'20", in NW¼ sec.1, T.8 S., R.27 E., in gatehouse of Ward tunnel intake, near dam on South Fork San Joaquin River, 16 miles northeast of town of Big Creek.

DRAINAGE AREA.--171 sq mi.

RECORDS AVAILABLE.--November 1925 to September 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is at mean sea level (levels by Southern California Edison Co.).

EXTREMES.--Maximum contents during year, 64,700 acre-ft Aug. 6, 7; maximum elevation, 7,327.84 ft Aug. 7; minimum contents, 244 acre-ft Oct. 31 to Nov. 3, Nov. 6; minimum elevation, 7,224.55 ft Nov. 1.

1925-67: Maximum contents, 68,000 acre-ft July 3, 1932 (elevation, 7,329.14 ft); no available contents Oct. 2-4, 1928, Nov. 30 to Dec. 2, 1927.

NOTE.--Prior to 1960 maximum and minimum daily contents were published.

REMARKS.--Lake is formed by multiple-arch concrete dam; storage began in April 1925. Usable capacity, 64,400 acre-ft between elevations 7,220.9 (throat of Venturi tube in Ward tunnel intake) and 7,327.5 ft (top of spillway drum gates) above mean sea level. Additional storage of 168 acre-ft is not available for diversion. Water is diverted through Ward tunnel to Huntington Lake and used for power development in Big Creek plants. See schematic diagram of San Joaquin River basin. Figures given herein represent usable contents.

COOPERATION.--Record of contents furnished by Southern California Edison Co. in connection with a Federal Power Commission project.

CAPACITY TABLE (ELEVATION, IN FEET, AND CONTENTS, IN ACRE-FEET)

7,220.9	0	7,260	11,600
7,222	63	7,265	14,600
7,224	201	7,270	17,800
7,227	495	7,275	21,100
7,230	887	7,280	24,600
7,235	1,770	7,290	32,000
7,240	2,980	7,300	39,900
7,245	4,670	7,310	48,300
7,250	6,650	7,320	57,300
7,255	8,950	7,330	66,800

CONTENTS, IN ACRE-FEET, AT 2400 HOURS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6,900	244	362	353	460	406	413	407	26,800	57,900	63,400	59,700
2	6,020	244	405	350	447	407	403	406	26,200	57,900	63,600	59,600
3	5,080	244	413	349	436	405	392	415	25,700	57,800	63,700	59,500
4	4,130	247	409	349	432	396	391	424	25,300	57,700	63,900	59,600
5	3,160	246	702	348	433	390	394	428	24,700	56,800	64,300	59,600
6	2,250	244	2,680	342	434	387	389	470	24,000	56,200	64,700	59,600
7	1,390	247	3,660	341	441	394	395	561	23,900	56,100	64,700	59,500
8	657	255	4,170	340	441	400	413	735	24,100	55,700	64,600	59,200
9	341	256	3,510	338	451	404	412	794	24,800	55,400	64,300	58,900
10	290	258	2,670	338	470	399	405	711	25,600	55,900	64,200	58,500
11	276	258	1,820	343	470	394	404	628	26,600	57,000	64,300	58,000
12	272	258	941	347	470	383	418	583	27,600	58,300	64,400	57,500
13	265	256	534	348	463	420	422	580	28,400	60,200	64,300	57,000
14	262	254	455	351	441	452	425	670	28,900	62,400	64,300	56,500
15	258	254	435	352	435	487	418	876	29,700	63,100	64,100	55,800
16	256	259	432	353	425	1,040	420	1,190	31,400	62,700	64,000	55,100
17	253	258	427	353	420	828	412	1,720	34,200	63,100	64,300	54,300
18	251	252	415	350	418	672	412	2,450	37,900	63,700	64,200	53,700
19	250	260	412	344	419	571	420	3,750	42,400	63,700	64,000	53,000
20	249	311	410	352	415	517	417	5,480	47,000	62,900	63,800	52,300
21	251	309	395	364	413	499	413	7,310	52,600	62,700	63,600	51,700
22	249	304	389	375	410	495	412	9,750	56,200	62,800	63,200	51,000
23	249	293	390	428	404	477	412	12,500	56,800	62,700	62,900	50,300
24	249	292	383	414	400	454	406	15,400	56,900	62,800	62,700	49,600
25	249	288	384	451	399	434	409	18,000	57,000	62,500	62,600	48,800
26	248	290	374	505	404	417	428	20,400	57,000	62,400	62,400	48,100
27	248	293	368	499	398	433	418	22,500	57,100	62,200	62,000	47,400
28	247	618	368	482	399	433	405	24,100	57,100	62,200	61,600	46,600
29	246	513	370	481	-----	422	399	25,300	57,700	62,600	61,000	45,800
30	245	406	361	471	-----	413	402	26,300	57,800	62,800	60,500	45,000
31	244	-----	358	472	-----	413	-----	26,800	-----	63,500	60,000	-----
(+)	7,224.56	7,226.23	7,225.78	7,226.80	7,226.17	7,226.29	7,226.19	7,283.13	7,320.50	7,326.57	7,322.85	7,306.18
(-)	-7,470	+162	-48	+114	-73	+14	-11	+26,400	+31,000	+5,700	-3,500	-15,000
Max	6,900	618	4,170	505	470	1,040	428	26,800	57,800	63,700	64,700	59,700
Min	244	244	358	338	398	383	389	406	23,900	55,400	60,000	45,000

Cal yr 1966 ±6
Wat yr 1967 ±37,290

† Elevation, in feet, at end of month.
‡ Change in contents, in acre-feet.

11-2300. SOUTH FORK SAN JOAQUIN RIVER NEAR FLORENCE LAKE, CALIF.

LOCATION.--Lat 37°16'20", long 118°57'50", in SE $\frac{1}{4}$ sec.36, T.7 S., R.27 E., on left bank just downstream from spillway of Florence Lake Dam and 6 miles upstream from Bear Creek.

DRAINAGE AREA.--171 sq mi.

RECORDS AVAILABLE.--October 1921 to September 1967. Monthly discharge only for some periods, published in WSP 1315-A. Prior to October 1925, published as "near Lake Florence."

GAGE.--Graphic water-stage recorder, Parshall flume, and concrete control. Altitude of gage is 7,200 ft (from topographic map).

AVERAGE DISCHARGE.--46 years, 311 cfs (225,200 acre-ft per year), combined flow of South Fork San Joaquin River and Ward tunnel at intake.

EXTREMES.--Maximum discharge during year, 3,230 cfs June 30 (gage height, 14.92 ft); minimum daily, 3.3 cfs Jan. 24.

1921-67: Maximum discharge, 4,320 cfs June 6, 1940 (gage height, 15.38 ft); no flow at times.

REMARKS.--Records good. Flow regulated by Florence Lake beginning in 1925 (see sta. no. 2296) and by diversion into Ward tunnel (see sta. no. 2295). See schematic diagram of San Joaquin River basin.

COOPERATION.--Gage-height record and 11 discharge measurements furnished by Southern California Edison Co. in connection with a Federal Power Commission project.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	5.2	3,060	1,010	15
2	4.4	3.4	4.2	3.4	3.4	3.4	3.4	3.4	5.2	3,090	119	15
3	4.3	3.4	3.7	3.4	3.4	3.4	3.4	3.4	5.2	3,070	8.9	11
4	4.3	3.4	3.4	3.4	3.4	3.4	3.4	3.5	5.2	3,070	8.9	10
5	4.2	3.4	5.6	3.4	3.4	3.4	3.4	3.6	5.2	2,850	9.1	10
6	4.0	3.4	6.6	3.4	3.4	3.4	3.4	3.7	5.2	2,970	64	10
7	3.9	3.4	4.1	3.4	3.4	3.4	3.4	3.8	5.2	1,740	104	10
8	3.7	3.4	4.2	3.4	3.4	3.4	3.4	3.8	5.2	1,520	73	10
9	3.5	3.4	4.1	3.4	3.4	3.4	3.4	3.9	5.3	1,210	26	10
10	3.4	3.4	4.0	3.4	3.4	3.4	3.4	3.8	5.3	432	9.7	10
11	3.4	3.4	3.9	3.4	3.4	3.4	3.4	3.7	5.3	8.5	10	7.5
12	3.4	3.4	3.7	3.4	3.4	3.4	3.4	3.7	5.3	8.5	20	5.2
13	3.4	3.4	3.5	3.4	3.4	3.4	3.4	3.7	5.2	8.6	11	5.2
14	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.8	5.3	8.7	9.5	5.1
15	3.4	3.4	3.4	3.4	3.4	3.5	3.4	3.8	5.3	671	8.9	5.1
16	3.4	3.5	3.4	3.4	3.4	5.0	3.4	3.8	5.4	910	8.9	5.1
17	3.4	3.4	3.4	3.4	3.4	3.9	3.4	3.8	5.5	262	9.1	5.0
18	3.4	3.4	3.4	3.4	3.4	3.7	3.4	3.9	5.6	8.9	9.6	5.3
19	3.4	3.6	3.4	3.4	3.4	3.6	3.4	4.1	5.7	243	17	5.1
20	3.4	3.8	3.4	3.5	3.4	3.5	3.4	4.2	5.9	465	26	5.0
21	3.4	3.4	3.4	3.8	3.4	3.6	3.4	4.3	9.4	488	26	5.0
22	3.4	3.4	3.4	3.4	3.4	3.6	3.4	4.4	661	925	25	4.9
23	3.4	3.4	3.4	3.4	3.4	3.5	3.4	4.5	1,810	620	26	4.9
24	3.4	3.4	3.4	3.3	3.4	3.5	3.4	4.7	2,160	532	22	4.8
25	3.4	3.4	3.4	3.4	3.4	3.4	3.4	4.8	2,300	528	20	4.6
26	3.4	3.4	3.4	3.4	3.4	3.4	3.5	5.0	2,440	310	20	4.6
27	3.4	3.4	3.4	3.4	3.4	3.7	3.4	5.2	2,550	205	20	4.6
28	3.4	3.9	3.4	3.4	3.4	3.6	3.4	5.4	2,570	90	20	4.6
29	3.4	3.5	3.4	3.6	3.5	3.5	3.4	5.2	2,600	429	16	4.5
30	3.4	3.5	3.4	3.5	3.4	3.4	3.4	5.2	3,080	553	15	4.5
31	3.4	3.4	3.4	3.5	3.4	3.4	3.4	5.2	572	572	15	4.5
Total	111.5	103.4	115.6	106.2	95.2	109.4	102.1	128.7	20,287.1	30,858.2	1,787.6	211.6
Mean	3.60	3.45	3.73	3.43	3.40	3.53	3.40	4.15	676	995	57.7	7.05
Max	4.4	3.9	6.6	3.8	3.4	5.0	3.5	5.4	3,080	3,090	1,010	15
Min	3.4	3.4	3.4	3.3	3.4	3.4	3.4	3.4	5.2	8.5	8.9	4.5
Ac-ft	221	205	229	211	189	217	203	255	40,240	61,210	3,550	420

Cal yr 1966: Total 1,540.3 Mean 4.22 Max 6.9 Min 2.9 Ac-ft 3,060
Wtr yr 1967: Total 54,016.6 Mean 1.48 Max 3,090 Min 3.3 Ac-ft 107,100

SAN JOAQUIN RIVER BASIN

11-2305. BEAR CREEK NEAR LAKE THOMAS A. EDISON, CALIF.

LOCATION.--Lat 37°20'20", long 118°58'20", in SW $\frac{1}{4}$ sec.12, T.7 S., R.27 E. (unsurveyed), on right bank 0.2 mile upstream from diversion dam, 1.7 miles upstream from mouth, 2.1 miles south of Lake Thomas A. Edison, and 2.4 miles northeast of Mono Hot Springs.

DRAINAGE AREA.--52.5 sq mi.

RECORDS AVAILABLE.--October 1921 to September 1967. Monthly discharge only for some periods, published in WSP 1315-A. Prior to October 1954, published as "near Vermilion Valley."

GAGE.--Graphic water-stage recorder. Datum of gage is 7,366.94 ft above mean sea level (levels by Southern California Edison Co.).

AVERAGE DISCHARGE.--46 years, 88.2 cfs (63,900 acre-ft per year).

EXTREMES.--Maximum discharge during year, 1,400 cfs June 29 (gage height, 6.55 ft); minimum daily, 4.2 cfs Nov. 5, 6.

1921-67: Maximum discharge, 1,680 cfs July 26, 1956 (gage height, 7.12 ft); minimum recorded, 1.2 cfs Sept. 29 to Oct. 5, 1924.

REMARKS.--Records good. No storage or diversion above station. See schematic diagram of San Joaquin River basin.

COOPERATION.--Gage-height record and seven discharge measurements furnished by Southern California Edison Co. in connection with a Federal Power Commission project.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.0	4.5	23	18	33	29	32	31	235	1,070	378	139
2	6.0	4.5	21	18	30	31	31	32	195	1,090	366	136
3	6.0	4.5	21	18	28	31	27	32	214	1,020	342	139
4	5.7	4.5	30	18	31	28	28	37	238	978	326	162
5	5.7	4.2	33	18	36	26	30	37	198	882	304	160
6	5.7	4.2	65	18	33	30	32	44	187	732	280	128
7	5.7	4.5	89	17	34	27	32	63	262	732	238	107
8	5.7	6.8	100	17	36	31	34	105	330	675	206	97
9	5.4	6.4	77	16	36	33	34	132	378	620	200	88
10	5.4	6.8	55	17	42	34	32	92	386	580	195	77
11	6.0	7.4	42	19	41	32	33	73	435	585	192	66
12	6.4	7.1	37	21	42	32	36	63	440	615	192	60
13	6.0	6.4	33	22	39	40	37	63	370	714	200	56
14	5.7	5.7	30	23	34	45	39	78	358	792	235	53
15	5.4	6.0	29	24	31	50	38	136	370	738	195	50
16	5.4	7.4	30	24	29	88	34	200	455	690	167	48
17	5.4	6.8	30	24	28	87	35	253	575	580	182	45
18	5.0	6.4	29	22	29	72	36	307	726	525	192	48
19	5.0	7.4	30	20	30	57	37	346	670	535	170	60
20	5.0	13	30	20	31	49	36	400	630	500	155	52
21	5.0	8.5	26	23	27	46	33	480	762	480	145	46
22	5.0	12	24	27	27	49	34	555	744	485	143	48
23	5.0	12	23	33	27	48	33	605	660	455	134	49
24	5.0	12	22	38	26	41	32	635	685	435	148	50
25	5.0	10	21	39	25	39	32	595	726	475	157	60
26	5.0	11	20	51	25	36	31	585	774	495	153	64
27	5.0	11	20	40	26	36	36	545	810	455	136	60
28	5.0	34	20	34	27	36	33	480	846	490	121	59
29	4.8	53	20	32	-----	33	31	430	906	495	107	56
30	4.8	30	19	34	-----	32	33	390	1,000	425	99	59
31	4.5	-----	18	36	-----	26	-----	310	-----	400	103	-----
Total	166.7	318.0	1,067	781	883	1,274	1,001	8,134	15,545	19,743	6,161	2,322
Mean	5.38	10.6	34.4	25.2	31.5	41.1	33.4	262	518	637	199	77.4
Max	6.4	53	100	51	42	88	39	635	1,000	1,090	378	162
Min	4.5	4.2	18	16	25	26	27	31	187	400	99	45
Ac-ft	331	631	2,120	1,550	1,750	2,530	1,990	16,130	30,830	39,160	12,220	4,610

Cal yr 1966: Total 24,813.4 Mean 68.0 Max 334 Min 4.2 Ac-ft 49,220
 Wtr yr 1967: Total 57,395.7 Mean 157 Max 1,090 Min 4.2 Ac-ft 113,800

Peak discharge (base, 440 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
5-24	1900	5.75	840	7-13	2000	6.15	1,100
6-29	2000	6.55	1,400				

SAN JOAQUIN RIVER BASIN

621

11-2310. LAKE THOMAS A. EDISON NEAR BIG CREEK, CALIF.

LOCATION.--Lat 37°22'10", long 118°59'15", in sec.26, T.6 S., R.27 E. (unsurveyed), in outlet works of dam on Mono Creek at lower end of Vermilion Valley, 18.1 miles northeast of town of Big Creek.

DRAINAGE AREA.--90.0 sq mi.

RECORDS AVAILABLE.--October 1954 to September 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is at mean sea level (levels by Southern California Edison Co.).

EXTREMES.--Maximum contents during year, 125,300 acre-ft Aug. 9 (elevation, 7,642.63 ft); minimum, 14,000 acre-ft Mar. 31 (elevation, 7,565.44 ft).

1954-67: Maximum contents, 125,900 acre-ft Aug. 18, 1958 (elevation, 7,642.95 ft); minimum since appreciable storage was attained, 7,550 acre-ft Apr. 20, 1965 (elevation, 7,557.23 ft).

NOTE.--Prior to 1960, maximum and minimum daily contents were published.

REMARKS.--Lake is formed by earth-fill dam; dam completed and storage began on Oct. 12, 1954. Usable capacity, 125,000 acre-ft between elevations 7,508.9 (invert of outlet works) and 7,642.5 ft (top of gates in service spillway) above mean sea level. Water is released for diversion to Ward tunnel via Mono Creek diversion works. See schematic diagram of San Joaquin River basin. Figures given herein represent usable contents.

COOPERATION.--Record of contents furnished by Southern California Edison Co. in connection with a Federal Power Commission project.

CAPACITY TABLE (ELEVATION, IN FEET, AND CONTENTS, IN ACRE-FEET)

7,508.9	0	7,560	9,520
7,515	18	7,570	18,100
7,520	64	7,580	28,500
7,525	156	7,590	40,500
7,530	297	7,600	53,800
7,535	513	7,610	68,600
7,540	928	7,620	85,000
7,545	1,830	7,630	102,400
7,550	3,570	7,640	120,400
7,555	6,150	7,643	128,000

CONTENTS, IN THOUSANDS OF ACRE-FEET, AT 2400 HOURS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	92.1	86.6	74.5	64.8	50.0	29.7	14.1	16.4	42.2	98.7	124.8	124.5
2	92.1	86.6	74.1	64.3	49.4	29.0	14.2	16.0	43.0	100.7	125.0	124.5
3	92.0	86.6	73.4	63.8	48.7	28.2	14.2	15.7	44.0	102.6	125.1	124.4
4	92.0	86.5	72.8	63.3	48.0	27.5	14.4	15.4	45.0	104.2	125.2	124.6
5	91.9	86.5	72.8	62.8	47.4	26.7	14.4	15.1	45.8	105.5	125.2	124.6
6	91.9	86.5	73.2	62.2	46.7	26.0	14.5	14.8	46.7	106.9	125.2	124.6
7	91.9	86.5	73.4	61.7	46.0	25.2	14.6	14.6	47.8	108.5	125.2	124.5
8	91.9	86.5	73.6	61.2	45.3	24.5	14.7	14.7	49.0	109.9	125.2	124.4
9	91.7	86.4	73.8	60.6	44.5	23.8	14.8	15.0	50.5	111.0	125.3	124.3
10	91.2	86.4	73.9	60.1	43.8	23.5	14.8	15.3	52.0	112.6	125.1	124.1
11	90.7	86.4	74.0	59.6	43.1	23.5	15.0	15.5	53.7	114.4	125.1	123.9
12	90.3	86.4	74.0	59.2	42.4	23.6	15.0	15.7	55.4	116.1	125.1	123.7
13	89.8	86.4	74.0	58.7	41.6	23.4	15.1	16.0	56.9	117.8	125.1	123.5
14	89.3	86.1	73.6	58.1	40.9	22.7	15.2	16.2	58.4	118.8	125.0	123.2
15	88.8	85.6	73.0	57.6	40.2	22.0	15.3	16.6	60.0	119.2	125.0	123.0
16	88.4	85.0	72.6	57.1	39.4	22.0	15.4	17.1	61.8	119.6	125.1	122.8
17	88.2	84.2	72.1	56.6	38.7	22.2	15.4	17.8	63.9	120.6	125.1	122.6
18	88.2	83.4	71.6	56.1	37.9	22.2	15.6	18.8	66.4	121.8	125.0	122.5
19	87.8	82.7	71.1	55.6	37.2	21.8	15.7	19.9	68.7	122.9	125.1	122.3
20	87.4	82.1	70.6	55.2	36.4	21.1	15.8	21.1	71.1	123.6	125.1	122.1
21	87.3	81.3	70.1	54.9	35.7	20.4	16.0	22.7	73.9	124.4	125.1	121.9
22	87.1	80.6	69.7	54.5	34.9	19.8	16.1	24.4	76.7	124.6	125.1	121.7
23	86.9	79.9	69.2	54.1	34.2	19.1	16.2	26.4	79.2	124.3	125.0	121.5
24	86.8	79.1	68.7	53.9	33.5	18.4	16.2	28.6	81.8	124.5	125.0	121.4
25	86.8	78.4	68.2	53.4	32.7	17.7	16.3	30.7	84.5	124.8	125.0	121.3
26	86.7	77.7	67.7	53.0	32.0	17.0	16.4	32.9	87.1	124.8	125.0	121.3
27	86.7	77.0	67.2	52.6	31.2	16.3	16.5	34.8	89.3	124.8	125.0	121.2
28	86.7	76.5	66.7	52.2	30.5	15.6	16.5	36.5	91.1	125.0	124.9	121.1
29	86.7	76.0	66.2	51.8	-----	15.0	16.6	38.2	93.8	124.9	124.8	121.1
30	86.6	75.3	65.8	51.4	-----	14.3	16.7	39.8	96.6	124.6	124.7	121.0
31	86.6	-----	65.3	50.7	-----	14.0	-----	41.1	-----	124.6	124.6	-----
(†)	7,620.95	7,614.15	7,607.84	7,597.82	7,581.73	7,565.45	7,568.45	7,590.48	7,626.72	7,642.28	7,642.27	7,640.33
(‡)	-5,500	-11,300	-10,000	-14,600	-20,200	-16,500	+2,700	+24,400	+55,500	+28,000	0	-3,600
Max	92.1	86.6	74.5	64.8	50.0	29.7	16.7	41.1	96.6	125.0	125.3	124.6
Min	86.6	75.3	65.3	50.7	30.5	14.0	14.1	14.6	42.2	98.7	124.6	121.0

Cal yr 1966 †-5,100

Wat yr 1967 ‡+28,900

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-feet.

SAN JOAQUIN RIVER BASIN

11-2315. MONO CREEK BELOW LAKE THOMAS A. EDISON, CALIF.

LOCATION.--Lat 37°21'40", long 118°59'25", in SW¼ sec.35, T.6 S., R.27 E. (unsurveyed), on left bank 0.6 mile upstream from diversion dam, 1 mile downstream from Lake Thomas A. Edison, and 1.9 miles northeast of Mono Hot Springs.

DRAINAGE AREA.--92.5 sq mi.

RECORDS AVAILABLE.--October 1921 to September 1967. Monthly discharge only for some periods, published in WSP 1315-A. Prior to October 1954, published as "near Vermilion Valley."

GAGE.--Graphic water-stage recorder. Altitude of gage is 7,400 ft (from topographic map).

AVERAGE DISCHARGE.--46 years, 149 cfs (107,900 acre-ft per year), adjusted for storage.

EXTREMES.--Maximum discharge during year, 707 cfs July 22 (gage height, 6.94 ft); minimum daily, 12 cfs Mar. 17. 1921-87: Maximum discharge, 1,760 cfs June 2, 1938 (gage height, 8.62 ft); minimum daily, 0.3 cfs Nov. 11, 12, 1954.

REMARKS.--Records good. Flow regulated by Lake Thomas A. Edison beginning Oct. 12, 1954 (see sta. no. 2310). No diversion above station. See schematic diagram of San Joaquin River basin.

COOPERATION.--Gage-height record and eight discharge measurements furnished by Southern California Edison Co. in connection with Federal Power Commission project.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	14	16	395	277	415	460	23	207	21	658	334	156
2	14	16	395	277	415	460	23	265	20	663	281	156
3	14	16	395	289	410	455	23	212	21	663	361	160
4	14	16	395	293	410	455	23	212	20	668	285	160
5	14	16	276	293	405	455	23	212	20	674	325	160
6	14	16	18	293	405	455	23	212	20	455	289	160
7	14	16	18	293	405	460	22	212	20	325	253	160
8	14	16	18	293	430	460	22	77	20	325	223	160
9	128	16	18	293	450	460	22	13	20	330	226	160
10	234	16	18	293	445	219	22	13	20	102	293	156
11	238	16	18	293	445	68	22	13	20	16	249	172
12	238	16	18	293	445	68	22	13	19	16	241	192
13	238	16	129	297	445	223	21	13	18	16	249	188
14	238	134	253	297	445	435	21	15	18	463	273	192
15	238	301	348	297	445	435	21	18	18	690	195	156
16	238	325	285	297	445	163	22	20	18	597	201	150
17	54	395	285	297	450	12	22	26	18	234	219	144
18	58	395	285	297	450	119	22	29	17	83	192	144
19	212	395	285	297	450	321	20	31	17	149	156	136
20	166	395	285	297	455	425	18	34	17	215	156	144
21	100	359	285	297	455	430	18	40	16	215	156	160
22	100	385	285	305	450	430	18	39	16	507	156	150
23	100	385	285	305	450	435	18	42	16	696	156	150
24	57	385	281	305	450	435	18	42	16	397	156	136
25	16	385	281	305	455	435	18	39	15	372	156	94
26	16	385	281	305	455	430	18	36	159	531	156	97
27	16	385	281	301	455	435	18	30	375	531	156	97
28	16	370	277	301	455	435	18	29	540	505	156	77
29	16	329	277	301	- - - - -	435	18	28	188	624	156	102
30	16	395	277	343	- - - - -	435	18	25	265	602	156	85
31	16	- - - - -	277	410	- - - - -	230	- - - - -	23	- - - - -	410	156	- - - - -
Total	2861	6311	7224	9334	12290	11173	617	2220	1988	12732	6717	4354
Mean	92.3	210	233	301	439	360	20.6	71.6	66.3	411	217	145
Max	238	395	395	410	455	460	23	265	540	696	361	192
Min	14	16	18	277	405	12	18	13	15	16	156	77
Ac-ft	5670	12520	14330	18510	24380	22160	1220	4400	3940	25250	13320	8640
Cal yr 1966: Total	42601			Mean 117	Max 410	Min 12	Ac-ft 84,500					
Wtr yr 1967: Total	77821			Mean 213	Max 696	Min 12	Ac-ft 154,400					

11-2325. JACKASS CREEK NEAR BASS LAKE, CALIF.

LOCATION.--Lat 37°29'20", long 119°18'10", in SW¼ sec.13, T.5 S., R.24 E., on left bank 1.6 miles east of Jackass Meadow, 10 miles upstream from West Fork, and 18 miles northeast of town of Bass Lake.

DRAINAGE AREA.--12.1 sq mi.

RECORDS AVAILABLE.--October 1921 to September 1928, November 1951 to September 1967 (no winter records except water year 1963). Monthly discharge only for some periods, published in WSP 1315-A. Prior to October 1962, published as "near Jackass Meadow."

GAGE.--Graphic water-stage recorder. Altitude of gage is 6,900 ft (from topographic map). Prior to May 5, 1922, staff gage at same site and datum.

AVERAGE DISCHARGE.--8 years (1921-28, 1962-63), 21.2 cfs (15,350 acre-ft per year).

EXTREMES.--Maximum discharge recorded during year, 416 cfs May 23 (gage height, 9.48 ft); no flow Oct. 1-27, Nov. 2, 3.
1921-28, 1951-67: Maximum discharge recorded, 786 cfs Dec. 23, 1955 (gage height, 11.37 ft); no flow at times.

REMARKS.--Records fair. No regulation or diversion above station. See schematic diagram of San Joaquin River basin.

COOPERATION.--Gage-height record and four discharge measurements furnished by Southern California Edison Co. in connection with a Federal Power Commission project.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0.10	11					24	125	158	6.2	0.90
2	0	0	4.4					24	111	144	5.0	.90
3	0	0	18					28	130	125	4.2	1.2
4	0	.10	14					32	153	112	3.6	1.0
5	0	.10	10					32	159	98	3.0	.80
6	0	.10	110					38	159	84	2.6	.60
7	0	.10	106					55	194	75	2.0	.50
8	0	.10	60					86	208	68	2.8	.40
9	0	.10	42					102	212	61	2.0	.40
10	0	.10	33					79	207	55	1.2	.40
11	0	.10	-					62	215	52	.80	.40
12	0	.10	-					55	194	51	.70	.30
13	0	.10	-					57	178	51	.80	.20
14	0	.10	-					73	182	49	1.0	.20
15	0	.10	-					112	197	47	12	.20
16	0	.40	-					156	208	43	20	.20
17	0	.20	-					190	222	38	53	.10
18	0	.10	-					212	229	34	40	.13
19	0	.10	-					221	207	31	15	1.1
20	0	3.2	-					249	209	26	8.4	.50
21	0	1.6	-					269	223	22	5.6	.40
22	0	.70	-					288	202	20	4.4	.40
23	0	1.0	-					304	188	18	3.4	.40
24	0	1.3	-					293	189	17	3.0	.90
25	0	.90	-					288	188	16	2.8	.90
26	0	.60	-					277	177	14	2.7	.60
27	0	.60	-					263	174	12	2.0	.40
28	.10	43	-					230	171	11	1.6	.30
29	.10	70	-					211	168	10	1.3	.30
30	.10	24	-					202	164	8.8	1.0	.30
31	.10	-	-					174	-	7.7	1.0	-
Total	.40	149.00	-	-	-	-	-	4,686	5,543	1,558.5	213.10	16.50
Mean	.01	4.97	-	-	-	-	-	151	185	50.3	6.87	.55
Max	.10	70	-	-	-	-	-	304	229	158	53	1.3
Min	0	0	-	-	-	-	-	24	111	7.7	.70	.10
Ac-ft	.80	296	-	-	-	-	-	9,290	10,990	3,090	423	33
Cal yr 1966: Total	-	-	Mean	-	Max	-	Min	-	Ac-ft	-	-	-
Wtr yr 1967: Total	-	-	Mean	-	Max	-	Min	-	Ac-ft	-	-	-

SAN JOAQUIN RIVER BASIN

11-2345. CHIQUITO CREEK NEAR BASS LAKE, CALIF.

LOCATION.--Lat 37°24'45", long 119°22'50", in NE¼ sec.18, T.6 S., R.24 E., on right bank 0.5 mile downstream from Beasore Creek, 0.6 mile southwest of Arnold Meadow, and 12 miles northeast of town of Bass Lake.

DRAINAGE AREA.--60.1 sq mi.

RECORDS AVAILABLE.--September 1921 to September 1928, November 1951 to September 1967 (no winter records 1952-54, 1956). Monthly discharge only for some periods, published in WSP 1315-A. Prior to October 1962, published as "near Arnold Meadow."

GAGE.--Graphic water-stage recorder. Altitude of gage is 4,800 ft (from topographic map). Prior to Apr. 30, 1922, staff gage at same site and datum.

AVERAGE DISCHARGE.--19 years (1921-28, 1954-55, 1956-67), 84.9 cfs (61,470 acre-ft per year).

EXTREMES.--Maximum discharge during year, 3,000 cfs Dec. 6 (gage height, 11.25 ft), from rating curve extended above 1,100 cfs as explained below; minimum, 4.3 cfs Oct. 10-14, 20, Oct. 25 to Nov. 5.
1921-28, 1951-67: Maximum discharge, 8,630 cfs Dec. 23, 1955 (gage height, 16.38 ft), from rating curve extended above 1,100 cfs on basis of slope-area measurement of maximum flow; minimum, 1.2 cfs Sept. 7, 9, 1961.

REMARKS.--Records good except those for period of no gage-height record, which are poor. No regulation or diversion above station. See schematic diagram of San Joaquin River basin.

COOPERATION.--Gage-height record and eight discharge measurements furnished by Southern California Edison Co. in connection with a Federal Power Commission project.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.6	4.3	50	58	117	110	110	80	260	563	70	24
2	4.6	4.3	99	59	102	115	100	85	230	523	68	24
3	5.0	4.3	196	58	100	117	90	90	240	455	64	28
4	5.0	4.3	89	58	100	110	85	100	280	424	60	25
5	5.0	4.3	221	59	104	100	90	110	310	386	56	24
6	5.0	5.3	1,880	54	106	102	85	120	280	350	53	23
7	4.6	8.9	455	54	111	105	95	140	350	326	52	22
8	4.6	9.4	238	56	113	105	95	190	430	296	49	21
9	4.6	9.4	175	54	115	105	100	240	460	269	46	21
10	4.3	8.0	147	56	125	105	100	200	470	246	45	21
11	4.3	8.4	129	59	131	110	95	160	490	232	44	20
12	4.3	8.9	115	62	133	115	95	140	480	229	42	19
13	4.3	8.0	108	64	133	120	90	140	450	224	40	19
14	4.3	7.6	100	64	125	140	100	180	490	216	38	18
15	4.6	7.2	96	64	113	300	100	220	550	216	40	17
16	4.6	4.3	96	67	108	650	95	320	610	206	38	16
17	4.6	25	96	65	106	400	95	450	680	178	54	16
18	4.6	13	95	60	108	200	95	510	730	162	53	34
19	4.6	12	95	59	111	150	95	570	660	152	38	28
20	4.3	78	93	62	104	130	95	640	691	137	36	20
21	4.6	34	86	79	102	120	90	700	731	127	34	18
22	4.6	25	80	70	104	120	90	760	679	123	33	19
23	4.6	21	79	74	104	120	85	850	631	113	31	27
24	4.6	18	74	54	102	110	80	840	631	111	31	26
25	4.3	16	70	65	102	105	75	800	611	108	53	29
26	4.3	16	68	75	100	100	80	750	591	100	53	22
27	4.3	17	60	84	104	100	90	700	587	95	36	19
28	4.3	195	58	84	106	95	85	620	575	91	32	18
29	4.3	218	56	125	-----	95	80	530	583	86	29	20
30	4.3	79	56	147	-----	105	75	480	583	82	28	18
31	4.3	-----	57	152	-----	105	-----	370	-----	77	26	-----
Total	140.3	912.6	5,317	2,201	3,089	4,564	2,735	12,085	15,343	6,903	1,372	656
Mean	4.53	30.4	172	71.0	110	147	91.2	390	511	223	44.3	21.9
Max	5.0	218	1,880	152	133	650	110	850	731	563	70	34
Min	4.3	4.3	50	54	100	95	75	80	230	77	26	16
Ac-ft	278	1,810	10,550	4,370	6,130	9,050	5,420	23,970	30,430	13,690	2,720	1,300

Cal yr 1966: Total 29,358.7 Mean 80.4 Max 1,880 Min 4.3 Ac-ft 58,230
Wtr yr 1967: Total 55,317.9 Mean 152 Max 1,880 Min 4.3 Ac-ft 109,700

Peak discharge (base, 500 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-28	1900	7.05	535	5-23	-	-	-
12- 6	1400	11.25	3,000	6-21	2030	7.86	863
3-16	-	-	-				

Note.--No gage-height record March 5 to June 19.

11-2347. MAMMOTH POOL RESERVOIR NEAR BIG CREEK, CALIF.

LOCATION.--Lat 37°19'45", long 119°19'15", in SW¼ sec.11, T.7 S., R.24 E., in gatehouse of power tunnel intake near dam on San Joaquin River, 10 miles northwest of town of Big Creek.

DRAINAGE AREA.--995 sq mi.

RECORDS AVAILABLE.--October 1959 to September 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is at mean sea level (levels by Southern California Edison Co.).

EXTREMES.--Maximum contents during year, 125,500 acre-ft July 1, 2; maximum elevation, 3,335.00 ft July 2; minimum contents, 22,700 acre-ft May 5, 6; minimum elevation, 3,202.93 ft May 6.
1959-67: Maximum contents, 125,500 acre-ft July 1, 2, 1967; maximum elevation, 3,335.00 ft July 2, 1967; minimum contents since appreciable storage was attained, 4,710 acre-ft Mar. 20, 1966 (elevation, 3,140.65 ft).

REMARKS.--Reservoir is formed by an earth-filled dam; storage began Oct. 8, 1959. Usable capacity, 119,900 acre-ft between elevations 3,100.00 (invert of power tunnel) and 3,330.00 ft (crest of spillway) above mean sea level. Additional storage of 2,780 acre-ft is not available for release. Water is diverted through tunnel for power development; water is returned to river 8.5 miles downstream from dam. See schematic diagram of San Joaquin River basin. Figures given herein represent usable contents.

COOPERATION.--Records of contents furnished by Southern California Edison Co. in connection with a Federal Power Commission project.

CAPACITY TABLE (ELEVATION, IN FEET, AND CONTENTS, IN ACRE-FEET)

3,100	0	3,180	14,100
3,105	417	3,190	17,400
3,110	861	3,200	21,400
3,115	1,360	3,220	31,100
3,120	1,900	3,240	42,800
3,130	3,110	3,260	56,400
3,140	4,600	3,280	72,100
3,150	6,400	3,300	89,800
3,160	8,620	3,320	109,300
3,170	11,200	3,335	125,500

CONTENTS, IN THOUSANDS OF ACRE-FEET, AT 2400 HOURS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	36.9	27.8	31.0	120.7	120.6	62.1	59.1	25.4	121.9	125.5	121.2	93.9
2	36.6	27.5	33.3	120.7	120.7	59.8	58.1	24.2	121.6	125.4	120.4	92.7
3	36.3	27.2	36.5	120.7	118.6	57.6	56.8	23.4	121.9	125.0	120.0	91.5
4	36.0	26.9	38.0	120.8	116.6	55.3	55.8	22.9	122.1	124.9	119.5	90.4
5	35.6	26.6	44.7	120.8	114.7	52.9	54.7	22.7	122.0	124.3	118.6	89.7
6	35.0	26.3	77.5	120.8	112.7	50.4	53.4	22.8	122.2	123.9	117.6	88.6
7	34.7	26.1	86.8	120.7	110.8	48.0	52.5	24.2	122.8	123.5	116.4	87.4
8	34.3	25.8	91.1	120.6	108.8	45.7	51.3	27.4	123.0	123.2	114.9	86.0
9	34.1	25.6	94.1	120.6	106.9	43.5	50.3	32.1	123.1	122.8	113.2	84.2
10	33.8	25.3	96.5	120.7	105.1	41.3	49.2	37.1	123.2	122.2	111.5	82.5
11	33.5	25.0	98.5	120.7	103.4	39.3	48.3	38.4	123.2	122.1	110.7	80.8
12	33.2	24.8	100.3	120.8	101.7	38.3	47.1	39.4	123.1	122.3	110.0	79.1
13	32.9	24.6	102.0	120.8	100.0	37.1	45.9	40.4	122.7	122.9	109.5	77.4
14	32.5	24.3	103.4	120.8	98.2	35.4	45.0	41.9	123.0	122.6	108.8	75.7
15	32.3	24.0	104.9	120.8	96.1	34.0	44.1	45.4	123.3	122.9	108.2	73.9
16	31.9	24.1	106.2	120.8	93.9	44.9	42.9	51.9	123.5	122.7	107.5	71.9
17	31.6	24.1	107.6	120.8	91.6	52.6	41.7	60.8	123.9	122.0	107.6	70.1
18	31.0	24.0	108.9	120.8	89.3	56.8	40.7	71.3	124.2	121.7	107.8	68.4
19	30.9	23.6	110.2	120.8	86.9	59.0	39.7	82.6	123.6	121.6	107.1	66.8
20	30.7	24.2	111.5	121.0	84.5	60.2	38.5	95.6	124.0	121.6	106.1	65.1
21	30.5	24.4	112.7	121.2	81.9	60.9	37.3	111.3	124.4	121.4	105.1	63.3
22	30.6	24.6	113.8	121.1	79.4	61.6	35.9	124.5	124.2	121.9	104.4	61.5
23	30.7	24.5	114.9	121.0	77.0	62.2	34.5	124.8	124.3	121.7	103.5	59.5
24	30.3	24.9	115.9	121.1	74.5	62.4	33.3	124.6	124.6	121.5	102.6	57.6
25	30.0	24.7	116.8	120.6	72.0	62.2	31.9	124.4	124.6	121.5	101.9	55.9
26	29.7	24.6	117.7	120.4	69.5	61.8	31.0	124.3	124.7	121.4	101.2	54.2
27	29.4	24.6	118.4	120.3	67.0	61.1	30.1	124.0	124.8	121.3	100.2	52.3
28	29.1	26.8	119.2	120.2	64.5	61.3	29.0	123.5	125.0	121.2	99.1	50.5
29	28.7	30.1	120.1	121.2	-----	61.2	28.1	123.3	125.0	121.3	97.8	48.7
30	28.4	30.5	120.6	121.5	-----	60.6	26.9	123.0	125.4	121.4	96.6	46.9
31	28.2	-----	120.7	121.0	-----	59.9	-----	122.5	-----	121.1	95.2	-----
(+)	3,214.38	3,218.88	3,330.68	3,330.96	3,270.67	3,264.78	3,211.99	3,332.31	3,334.88	3,331.03	3,305.81	3,246.43
(-)	-9,000	+2,300	+90,200	+300	-56,500	-4,600	-33,000	+95,600	+2,900	-4,300	-25,900	-48,300
Max	36.9	30.5	120.7	121.5	120.7	62.4	59.1	124.8	125.4	125.5	121.2	93.9
Min	28.2	23.6	31.0	120.6	64.5	34.0	26.9	22.7	121.6	121.1	95.2	46.9

Cal yr 1966..... + +97,600

Wat yr 1967..... + +9,700

+ Elevation, in feet, at end of month.

+ Change in contents, in acre-feet.

SAN JOAQUIN RIVER BASIN

11-2347.6. SAN JOAQUIN RIVER ABOVE SHAKEFLAT CREEK, NEAR BIG CREEK, CALIF.

LOCATION.--Lat 37°19'05", long 119°19'40", in SW $\frac{1}{4}$ sec.14, T.7 S., R.24 E., on right bank 1,500 ft upstream from Shakeflat Creek, 4,900 ft downstream from Mammoth Pool dam, and 10 miles northwest of town of Big Creek.

DRAINAGE AREA.--1,003 sq mi.

RECORDS AVAILABLE.--October 1959 to September 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is 2,865.50 ft above mean sea level (levels by Southern California Edison Co.).

EXTREMES.--Maximum discharge during year, 14,700 cfs July 10 (gage height, 16.96 ft); minimum daily, 4.8 cfs Nov. 12.

1959-67: Maximum discharge, 14,700 cfs July 10, 1967 (gage height, 16.96 ft); minimum daily, 0.3 cfs Oct. 14, Dec. 5, 1959.

REMARKS.--Records good. Flow regulated by Mammoth Pool Reservoir (see sta. no. 2347). Flow partly regulated by Florence Lake (see sta. no. 2296), Lake Thomas A. Edison (see sta. no. 2310) and diversions through Ward tunnel (see sta. no. 2295) and through Mono-Bear conduit to Ward tunnel. See schematic diagram of San Joaquin River basin.

COOPERATION.--Gage-height record and 15 discharge measurements furnished by Southern California Edison Co. in connection with a Federal Power Commission project.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	16	12	24	327	428	46	52	49	3,360	13,200	1,580	26
2	16	12	45	322	278	45	51	49	2,320	13,100	744	26
3	16	12	31	325	99	45	51	49	2,230	12,400	144	26
4	16	12	28	322	63	45	58	49	2,640	11,000	59	26
5	16	12	100	325	63	47	55	49	3,340	9,900	49	27
6	16	12	90	318	63	57	53	48	2,860	8,660	27	28
7	16	12	27	360	63	56	61	48	4,010	7,590	27	28
8	15	11	24	327	62	55	55	49	4,970	6,650	27	30
9	14	11	24	282	61	55	53	50	5,580	5,670	26	28
10	14	12	41	286	53	55	53	52	5,520	4,620	26	27
11	14	12	59	301	60	60	55	50	5,940	3,270	26	26
12	14	4.8	59	325	59	70	52	50	5,910	3,560	26	27
13	14	12	59	348	59	69	52	50	5,160	3,890	26	26
14	14	12	59	360	59	59	51	50	4,720	5,120	26	26
15	14	12	59	327	59	51	53	50	5,440	4,440	26	26
16	14	14	59	303	59	86	51	51	6,350	5,260	26	27
17	14	13	59	303	59	62	50	36	6,820	4,000	27	27
18	14	12	59	297	59	56	57	32	7,930	2,660	26	28
19	14	12	59	284	59	55	54	59	7,990	2,310	26	27
20	14	17	59	318	59	54	53	60	6,820	2,530	26	27
21	14	13	59	816	55	53	54	61	8,220	1,930	26	27
22	14	15	59	990	47	52	54	2,360	3,620	2,600	26	27
23	14	13	59	744	47	52	52	9,400	3,770	2,740	26	27
24	14	13	59	828	47	51	56	9,450	9,440	2,350	26	26
25	14	13	59	491	48	51	52	9,330	9,960	2,100	26	26
26	14	13	59	202	47	51	52	9,060	10,000	2,210	26	26
27	14	13	59	121	47	51	52	8,620	10,600	1,860	26	26
28	14	22	59	71	46	53	51	7,740	11,000	1,510	26	26
29	14	25	60	503	- - - - -	52	51	6,580	11,300	1,730	26	26
30	14	24	183	864	- - - - -	51	50	6,050	12,000	1,930	26	26
31	14	- - - - -	316	1,100	- - - - -	53	- - - - -	5,140	- - - - -	1,510	26	- - - - -
Total	449	402.8	2,055	13,090	2,208	1,698	1,594	74,771	199,820	152,300	3,256	802
Mean	14.5	13.4	66.3	422	78.9	54.8	53.1	2,412	6,661	4,913	105	26.7
Max	16	25	316	1,100	428	86	61	9,450	12,000	13,200	1,580	30
Min	14	4.8	24	71	46	45	50	32	2,230	1,510	26	26
Ac-ft	891	799	4,080	25,960	4,380	3,370	3,160	148,300	396,300	302,100	6,460	1,590

Cal yr 1966: Total 7,287.3 Mean 20.0 Max 316 Min 2.8 Ac-ft 14,450
 Wtr yr 1967: Total 452,445.8 Mean 1,240 Max 13,200 Min 4.8 Ac-ft 897,400

SAN JOAQUIN RIVER BASIN

627

11-2355. WARD TUNNEL OUTLET AT HUNTINGTON LAKE, CALIF.

LOCATION.--Lat 37°15'15", long 119°09'35", in SW¼ sec.5, T.8 S., R.26 E., at tunnel outlet at east end of Huntington Lake, 6 miles northeast of Big Creek.

RECORDS AVAILABLE.--October 1927 to September 1967. Monthly discharge only for some periods, published in WSP 1315-A. Prior to October 1962, published as Ward tunnel at outlet.

GAGE.--Graphic water-stage recorder until May 23, 1956, none thereafter. Datum of gage was 6,999.00 ft above mean sea level (levels by Southern California Edison Co.).

AVERAGE DISCHARGE.--40 years, 470 cfs (340,300 acre-ft per year).

EXTREMES.--1927-67: Maximum daily discharge, 2,080 cfs June 21, 1935; no flow at times in 1961, 1964-65.

REMARKS.--Records fair. Daily discharge computed as the sum of Ward tunnel at intake, Mono-Bear conduit, Camp Creek conduit, and corrected for change in contents of Portal Forebay. Tunnel diverts from Florence Lake to Huntington Lake, receives diversions from Bear and Mono Creeks and at times from several other small tributaries of South Fork San Joaquin River. See record for sta. no. 2295 Ward tunnel intake at Florence Lake.

COOPERATION.--Discharge of Camp Creek conduit and contents of Portal Forebay furnished by Southern California Edison Co. in connection with a Federal Power Commission project.

REVISIONS.--Revised figures of discharge for the water years 1965-66, superseding those published in Basic Data Reports, are given herein.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	36	0	210	622	583	560	174	1,160	1,600	959	640	1,060
2	43	195	170	601	577	525	248	986	1,570	965	900	1,050
3	26	208	161	577	578	354	352	809	1,590	985	1,000	1,040
4	34	208	161	625	597	248	343	700	1,660	1,200	969	1,040
5	34	201	45	679	598	235	342	573	1,650	1,300	940	1,030
6	33	201	147	699	591	245	333	517	1,540	1,380	804	1,030
7	32	113	21	713	582	238	469	422	1,440	1,410	521	1,040
8	31	52	290	700	574	236	554	408	1,420	1,420	507	1,070
9	31	213	214	717	572	231	489	392	1,360	1,400	514	1,070
10	32	80	202	695	538	147	520	403	1,440	1,380	512	1,090
11	32	0	202	642	563	159	571	402	1,490	1,200	729	1,110
12	32	0	59	614	600	131	533	432	1,500	947	1,540	1,110
13	32	91	77	601	600	130	552	562	1,500	901	1,540	1,100
14	32	0	245	571	564	130	543	637	1,400	862	1,460	796
15	32	73	242	609	565	124	522	712	1,260	684	1,630	624
16	31	0	413	601	518	129	581	943	1,190	1,050	1,650	622
17	31	78	597	606	472	132	603	1,350	1,160	1,080	1,640	621
18	29	0	380	588	576	140	610	1,620	1,120	1,060	1,650	625
19	29	72	660	575	488	146	630	1,690	1,180	1,200	1,630	629
20	29	0	635	585	568	141	574	1,690	1,280	1,210	1,200	661
21	29	70	631	592	577	200	410	1,630	1,330	1,110	1,040	730
22	29	0	609	572	566	197	500	1,360	1,340	1,040	1,120	722
23	29	0	725	586	572	238	527	1,230	1,350	970	1,130	713
24	29	100	425	579	562	177	499	861	1,240	987	1,120	706
25	29	0	278	475	577	166	705	773	868	988	1,100	701
26	89	0	330	654	459	170	727	1,080	837	980	1,090	697
27	0	92	280	606	553	154	793	1,340	870	954	1,080	687
28	0	0	273	523	490	134	949	1,340	840	939	1,080	672
29	0	150	437	625	-----	199	1,090	1,110	889	913	1,070	641
30	66	218	670	572	-----	173	1,180	460	938	816	1,070	619
31	0	-----	641	572	-----	178	-----	1,030	-----	662	1,060	-----
Total	941	2,415	10,430	18,976	15,530	6,367	16,923	29,622	39,852	32,952	33,936	25,306
Mean	30.4	80.5	336	612	555	205	564	923	1,295	1,063	1,095	844
Max	89	218	725	717	600	560	1,180	1,690	1,660	1,420	1,650	1,110
Min	0	0	21	475	459	124	174	392	837	662	507	619
Ac-ft	1,870	4,790	20,690	37,640	30,800	12,630	33,570	56,770	77,060	65,360	67,310	50,190
Cal yr 1964: Total	137,888			Mean 377	Max 740	Min 0		Ac-ft 273,500				
Wtr yr 1965: Total	231,250			Mean 634	Max 1,690	Min 0		Ac-ft 458,700				

SAN JOAQUIN RIVER BASIN

11-2355. WARD TUNNEL OUTLET AT HUNTINGTON LAKE, CALIF.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1965 TO SEPTEMBER 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	618	475	446	535	463	154	657	689	563	541	486	503
2	608	344	306	553	462	150	652	700	518	523	503	525
3	604	382	244	565	465	145	646	685	462	498	498	531
4	597	358	284	548	467	151	674	693	538	492	474	536
5	597	471	302	541	475	140	698	697	555	489	443	429
6	588	499	68	529	479	152	740	703	561	489	461	473
7	613	466	42	519	481	152	709	742	557	481	393	446
8	626	371	0	520	482	177	709	730	563	472	457	445
9	617	280	3.2	513	484	162	711	697	543	466	394	420
10	608	272	379	507	480	199	721	713	544	454	396	482
11	600	164	608	503	470	273	709	727	592	447	432	411
12	591	273	582	499	474	262	717	697	836	441	467	496
13	583	282	551	498	470	293	650	716	1,130	494	506	497
14	654	332	552	498	468	298	583	698	1,050	444	520	482
15	685	436	550	499	460	282	643	719	688	447	505	481
16	635	407	396	496	460	269	714	756	535	417	515	480
17	620	484	467	487	466	239	719	726	537	420	514	469
18	604	478	470	483	468	253	649	665	538	428	510	470
19	582	372	474	480	464	259	627	687	565	413	498	498
20	556	431	470	477	466	232	646	691	552	423	481	461
21	439	340	468	474	470	243	673	705	719	457	538	328
22	357	387	461	468	472	226	714	695	702	465	522	545
23	642	450	465	465	403	314	657	696	592	443	434	438
24	590	457	471	462	148	326	735	951	576	418	413	392
25	346	460	470	462	155	297	704	1,050	606	387	415	423
26	323	456	470	456	165	312	722	1,080	622	469	400	494
27	387	483	477	454	151	335	718	1,070	632	554	494	442
28	437	447	442	452	152	321	716	1,050	637	496	424	500
29	466	380	192	452	- - - - -	444	691	1,060	583	505	461	487
30	502	368	473	454	- - - - -	486	724	1,010	551	494	440	478
31	464	- - - - -	510	456	- - - - -	518	- - - - -	719	- - - - -	482	423	- - - - -
Total	17,139	11,805	12,093.2	15,305	11,520	8,064	20,628	24,217	19,647	14,449	14,417	14,062
Mean	553	394	390	494	411	260	688	781	622	466	465	469
Max	685	499	608	565	484	518	740	1,080	1,130	554	438	545
Min	323	164	0	452	148	140	583	665	462	387	393	328
Ac-ft	33,990	23,410	23,990	30,360	22,850	15,990	40,920	48,030	36,990	28,677	28,600	27,890

Cal yr 1965: Total 258,501.2 Mean 708 Max 1,690 Min 0 Ac-ft 512,800
Wtr yr 1966: Total 182,346.2 Mean 500 Max 1,130 Min 0 Ac-ft 361,700

11-2355. WARD TUNNEL OUTLET AT HUNTINGTON LAKE, CALIF.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	438	32	489	368	600	588	191	293	956	653	512	902
2	470	54	518	370	528	599	174	456	1,080	649	1,560	906
3	496	6	567	327	565	594	150	360	1,140	559	1,640	911
4	483	49	516	409	562	583	169	380	1,140	380	1,530	934
5	482	5	484	406	564	583	159	369	1,130	627	1,340	878
6	486	64	375	373	564	586	175	403	1,150	1,150	1,270	779
7	482	5	116	351	566	580	171	490	1,160	1,270	1,230	760
8	422	72	318	389	569	594	178	429	1,170	1,270	1,160	749
9	316	5	669	376	620	603	197	593	1,170	1,270	1,240	740
10	280	82	704	364	636	441	176	429	1,180	1,500	1,240	734
11	285	6	711	357	640	206	178	293	1,200	1,650	1,060	721
12	282	102	698	390	642	193	189	271	1,200	1,690	1,090	741
13	266	1	504	397	637	286	198	263	1,210	1,690	1,220	733
14	226	181	470	404	627	628	201	301	1,210	1,710	1,220	728
15	267	351	526	390	592	691	184	372	1,220	1,700	1,130	745
16	279	306	482	376	584	669	189	692	1,080	1,710	1,050	758
17	55	485	416	400	584	659	187	667	841	1,710	974	722
18	97	402	458	383	587	594	180	660	825	1,710	1,220	729
19	243	439	417	400	589	683	187	654	440	1,670	977	728
20	180	430	426	387	590	694	165	676	180	1,690	941	725
21	118	430	426	402	579	698	179	654	253	1,280	926	733
22	118	365	417	415	575	693	185	657	684	748	927	736
23	123	424	424	390	574	694	174	643	683	1,080	921	719
24	54	476	390	512	572	664	158	820	675	1,130	952	730
25	40	440	398	504	581	642	168	906	711	1,320	945	728
26	21	412	367	517	560	625	173	926	688	1,450	943	723
27	45	383	397	524	573	612	188	937	670	1,480	939	726
28	33	508	370	525	577	631	177	947	838	1,550	902	725
29	6	643	366	502	---	616	162	956	762	1,220	886	728
30	1	606	377	512	---	596	162	954	400	1,190	873	722
31	54	---	368	602	---	405	---	955	---	601	873	---
Total	7,148	7,764	14,164	13,022	16,437	17,930	5,324	18,406	27,046	39,307	33,691	22,893
Mean	231	259	457	420	587	578	177	594	902	1,268	1,087	763
Max	496	643	711	602	642	698	201	956	1,220	1,710	1,640	934
Min	1	1	116	327	528	193	150	263	180	380	512	719
Ac-ft	14,180	15,400	28,090	25,830	32,600	35,560	10,560	36,510	53,640	77,960	66,830	45,410
Cal yr 1966: Total	170,385		Mean 467	Max 1,130	Min 1	Ac-ft 338,000						
Wtr yr 1967: Total	223,132		Mean 611	Max 1,710	Min 1	Ac-ft 442,600						

SAN JOAQUIN RIVER BASIN

11-2360. HUNTINGTON LAKE NEAR BIG CREEK, CALIF.

LOCATION.--Lat 37°14'05", long 119°12'40", in SW $\frac{1}{4}$ sec.14, T.8 S., R.25 E., in gate tower of dam 1 on Big Creek, 2 miles northeast of town of Big Creek.

DRAINAGE AREA.--80.5 sq mi.

RECORDS AVAILABLE.--April 1913 to September 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is at mean sea level (levels by Southern California Edison Co.). Prior to June 19, 1920, staff gage at same site and datum.

EXTREMES.--Maximum contents during year, 89,300 acre-ft Aug. 7, 10; maximum elevation, 6,950.12 ft Aug. 10; minimum contents, 9,350 acre-ft May 6 (elevation, 6,865.31 ft).

1913-67: Maximum contents, 90,500 acre-ft May 31, 1926 (elevation, 6,950.92 ft); minimum, 2,100 acre-ft Nov. 6, 1937 (elevation, 6,838.53 ft).

NOTE.--Prior to 1960, maximum and minimum daily contents were published.

REMARKS.--Lake is formed by four dams; storage began Apr. 11, 1913. Dams were raised in 1914 and again in 1917.

Usable capacity, 89,200 acre-ft between elevations 6,819.9 (invert of outlet tunnel No. 1) and 6,950 ft (spillway crest at dam 1) above mean sea level. Additional storage of 600 acre-ft is not available for release. Huntington-Shaver conduit has diverted water from Huntington Lake to Shaver Lake since Apr. 21, 1928 (see sta. no. 2390). Water is used for power development in Big Creek plants. Figures given herein represent usable contents. See schematic diagram of San Joaquin River basin.

COOPERATION.--Record of contents furnished by Southern California Edison Co. in connection with a Federal Power Commission project.

CAPACITY TABLE (ELEVATION, IN FEET, AND CONTENTS, IN ACRE-FT)

6,819.9	0	6,870	11,300
6,820	8	6,880	16,400
6,822	142	6,890	22,900
6,825	382	6,900	30,900
6,830	899	6,910	40,200
6,835	1,550	6,920	50,800
6,840	2,350	6,930	62,600
6,845	3,320	6,940	75,300
6,850	4,480	6,950	89,200
6,860	7,430	6,951	90,610

CONTENTS, IN THOUSANDS OF ACRE-FEET, AT 2400 HOURS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	87.7	74.8	71.1	67.0	62.0	45.5	40.2	10.2	37.0	73.3	86.4	87.4
2	87.7	74.2	72.0	66.7	61.1	45.0	38.9	10.2	37.0	74.2	87.2	87.4
3	87.8	73.5	72.5	66.2	60.0	44.5	37.3	9.94	37.3	74.6	88.2	87.3
4	87.8	72.8	73.0	66.0	58.8	44.0	35.6	9.76	37.8	74.2	88.8	87.3
5	87.9	72.2	74.9	65.7	57.8	43.4	33.9	9.57	38.3	74.0	89.1	87.1
6	87.9	71.6	77.0	65.4	56.7	42.8	32.3	9.46	38.6	74.5	89.2	86.7
7	88.0	70.9	74.6	65.0	55.7	42.3	30.1	9.65	39.6	75.1	89.3	86.3
8	88.0	70.4	73.6	64.7	55.2	41.8	27.8	9.86	40.8	75.4	89.2	86.1
9	87.7	69.7	73.7	64.3	54.8	41.3	25.6	10.5	42.2	75.5	89.2	86.1
10	87.3	69.2	73.8	64.0	54.3	41.1	24.5	10.7	43.8	75.8	89.3	86.0
11	87.0	68.5	73.8	63.6	54.0	40.9	23.4	10.5	45.5	76.4	89.1	85.9
12	86.6	68.0	73.9	63.3	53.8	41.1	22.4	10.3	47.2	76.9	88.9	85.8
13	86.2	67.3	73.5	63.0	53.4	41.3	21.6	9.98	48.7	78.0	88.9	85.7
14	85.8	66.9	73.2	62.8	52.9	41.6	21.0	9.86	50.0	79.4	89.0	85.8
15	85.4	66.8	72.8	62.5	52.3	42.0	20.4	10.1	51.8	80.8	89.0	86.0
16	85.0	66.9	72.5	62.1	51.6	43.2	19.8	11.0	53.6	82.1	88.8	86.4
17	84.2	67.1	71.9	61.8	51.0	44.3	19.3	12.4	54.7	83.2	88.7	86.8
18	83.5	67.2	71.5	61.5	50.7	45.1	18.8	14.0	56.5	84.2	88.9	87.2
19	83.1	67.5	71.0	61.2	50.5	46.0	18.1	15.7	57.3	85.0	88.6	87.0
20	82.6	67.8	70.6	61.0	50.2	46.2	17.6	17.6	57.8	86.2	88.4	86.6
21	81.9	68.0	70.4	61.1	49.8	45.6	16.9	19.8	59.0	87.1	88.2	86.2
22	81.2	68.1	70.2	60.9	49.1	45.1	16.2	22.2	60.6	86.6	88.2	85.8
23	80.6	68.2	69.9	60.6	48.5	44.5	15.5	24.7	62.0	86.0	88.0	85.4
24	79.9	68.5	69.7	60.9	47.8	44.1	14.9	27.2	63.5	85.7	88.1	85.2
25	79.3	68.7	69.4	60.8	47.5	43.8	14.2	29.4	65.2	86.2	88.2	84.8
26	78.6	68.9	69.1	60.8	47.1	43.4	13.5	31.4	66.6	86.9	88.3	84.8
27	78.0	68.9	68.8	60.8	46.7	43.0	12.9	32.9	67.9	87.4	88.2	85.1
28	77.4	69.5	68.4	60.8	46.0	42.9	12.2	34.2	69.8	88.3	88.1	85.3
29	76.7	70.2	68.1	61.2	---	42.6	11.5	35.4	71.4	88.5	87.9	85.6
30	76.0	70.8	67.7	61.8	---	42.2	10.7	36.4	72.1	88.5	87.7	85.8
31	75.4	---	67.4	62.0	---	41.5	---	37.0	---	87.7	87.5	---
(+)	6,940.06	6,936.55	6,933.87	6,929.54	6,915.64	6,911.28	6,868.72	6,906.70	6,937.51	6,949.00	6,948.86	6,947.66
(+)	-12,300	-4,600	-3,400	-5,400	-16,000	-4,500	-30,800	+26,300	+35,100	+15,600	-200	-1,700
Max	88.0	74.8	77.0	67.0	62.0	46.2	40.2	37.0	72.1	88.5	89.3	87.4
Min	75.4	66.8	67.4	60.6	46.0	40.9	10.7	9.46	37.0	73.3	86.4	84.8

Calendar year 1966..... +12,800
Water year 1967..... +1,900

+ Elevation, in feet, at end of month.

+ Change in contents, in acre-feet.

11-2370. BIG CREEK BELOW HUNTINGTON LAKE, CALIF.

LOCATION.--Lat 37°13'10", long 119°12'50", in NW¼ sec.23, T.8 S., R.25 E., on right bank 1,200 ft upstream from Grouse Creek and 1 mile downstream from Huntington Lake.

DRAINAGE AREA.--81.1 sq mi.

RECORDS AVAILABLE.--June 1925 to September 1967.

GAGE.--Graphic water-stage recorder, Parshall flume, and concrete control. Altitude of gage is 6,600 ft (from topographic map). Prior to Oct. 1, 1942, at datum 1.00 ft lower and from Oct. 1, 1942, to Sept. 30, 1948, at datum 1.00 ft higher.

EXTREMES.--Maximum discharge during year, 40 cfs Aug. 10 (gage height, 3.14 ft); minimum daily, 1.0 cfs Jan. 15-19.

1925-67: Maximum discharge, 2,040 cfs June 23, 1925 (gage height, 11.3 ft, present datum), siphon spillways operating at Huntington Lake; minimum daily recorded, 0.1 cfs Jan. 18-21, Aug. 21 to Sept. 24, Oct. 7-18, Dec. 5-16, 1931.

REMARKS.--Records good. Flow regulated by Huntington Lake beginning in 1913 (see sta. no. 2360). During most of year flow is diverted for power development at Big Creek powerhouse No. 1. See schematic diagram of San Joaquin River basin. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

COOPERATION.--Gage-height record and two discharge measurements furnished by Southern California Edison Co. in connection with a Federal Power Commission project.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.4	2.3	2.4	1.2	1.6	1.4	2.1	1.8	8.3	3.8	2.6	2.2
2	2.4	2.3	3.4	1.1	1.5	1.4	2.1	1.9	7.8	3.7	2.6	2.2
3	2.5	2.3	3.4	1.1	1.4	1.4	2.0	2.1	8.3	3.6	2.5	2.3
4	2.4	2.3	2.7	1.1	1.4	1.3	2.0	2.1	8.7	3.6	2.5	2.3
5	2.4	2.3	8.4	1.1	1.4	1.3	1.9	2.1	8.7	3.4	2.6	2.2
6	2.5	2.3	1.7	1.1	1.4	1.3	1.9	2.4	8.3	3.3	6.9	2.3
7	2.4	2.4	5.5	1.1	1.4	1.3	1.9	3.0	8.3	3.2	1.8	2.2
8	2.4	2.4	4.1	1.1	1.4	1.4	1.8	3.7	8.3	3.0	1.4	2.2
9	2.4	2.3	3.6	1.1	1.5	1.4	1.9	3.8	7.8	3.0	5.2	2.2
10	2.5	2.3	3.4	1.1	1.5	1.4	1.9	3.7	7.8	3.0	2.5	2.2
11	2.4	2.3	3.2	1.1	1.5	1.4	1.9	3.3	7.8	2.8	2.2	2.2
12	2.4	2.3	3.1	1.1	1.5	1.4	1.8	3.2	7.6	2.8	2.8	2.2
13	2.5	2.3	3.1	1.1	1.5	1.4	1.9	3.5	7.1	2.8	2.6	2.2
14	2.5	2.3	3.0	1.1	1.5	1.6	2.0	4.0	7.1	2.7	2.6	2.2
15	2.4	2.3	2.9	1.0	1.4	1.4	2.2	4.6	7.1	2.6	3.1	2.2
16	2.5	2.5	2.2	1.0	1.4	4.0	2.2	5.1	6.9	2.6	2.5	2.2
17	2.4	2.3	1.5	1.0	1.4	3.2	2.2	5.8	6.9	2.6	2.4	2.2
18	2.4	2.3	1.5	1.0	1.4	2.7	2.2	6.9	6.9	2.6	2.4	2.5
19	2.4	2.4	1.4	1.0	1.4	2.5	2.1	7.8	6.7	2.6	2.4	2.3
20	2.4	2.8	1.4	1.2	1.3	2.4	2.1	8.7	6.5	2.4	2.3	2.2
21	2.4	2.4	1.4	1.7	1.3	2.5	2.1	11	6.0	2.4	2.4	2.2
22	2.4	2.4	1.4	1.4	1.3	2.6	2.0	12	5.6	2.4	2.3	2.2
23	2.4	2.3	1.3	1.2	1.3	2.5	2.0	12	5.4	2.4	2.3	2.2
24	2.4	2.3	1.3	1.2	1.3	2.5	1.9	13	5.2	2.4	2.3	2.2
25	2.4	2.3	1.3	1.2	1.3	2.4	1.9	13	4.9	2.4	2.4	2.3
26	2.4	2.3	1.2	1.2	1.3	2.3	2.0	12	4.7	2.3	2.3	2.2
27	2.4	2.4	1.2	1.2	1.3	2.4	2.0	12	4.5	2.4	2.3	2.2
28	2.4	3.0	1.2	1.2	1.3	2.5	1.9	12	4.3	2.2	2.3	2.2
29	2.3	2.6	1.2	1.6	-----	2.4	1.8	11	4.1	2.2	2.2	2.2
30	2.3	2.4	1.2	1.8	-----	2.2	1.8	11	3.9	2.5	2.2	2.2
31	2.3	-----	1.2	1.8	-----	2.2	-----	9.7	-----	2.6	2.2	-----
Total	74.7	71.4	91.1	37.2	39.2	62.1	59.5	208.2	201.5	86.3	152.2	66.8
Mean	2.41	2.38	2.94	1.20	1.40	2.00	1.98	6.72	6.72	2.78	4.91	2.23
Max	2.5	3.0	1.7	1.8	1.6	4.0	2.2	1.3	8.7	3.8	2.5	2.5
Min	2.3	2.3	1.2	1.0	1.3	1.3	1.8	1.8	3.9	2.2	2.2	2.2
Ac-ft	148	142	181	74	78	123	118	413	400	171	302	132

Cal yr 1966: Total 781.3 Mean 2.14 Max 1.7 Min 1.0 Ac-ft 1,550
Wtr yr 1967: Total 1,150.2 Mean 3.15 Max 2.5 Min 1.0 Ac-ft 2,280

SAN JOAQUIN RIVER BASIN

11-2375. PITMAN CREEK BELOW TAMARACK CREEK, CALIF.

LOCATION.--Lat 37°11'55", long 119°12'45", in NW¼ sec.35, T.8 S., R.25 E., on right bank 0.8 mile downstream from confluence of Tamarack Creek and South Fork Tamarack Creek, 1.4 miles upstream from mouth, and 1.9 miles east of town of Big Creek.

DRAINAGE AREA.--22.9 sq mi.

RECORDS AVAILABLE.--October 1927 to September 1967. Records for water year 1928 incomplete, yearly estimate published in WSP 1315-A.

GAGE.--Graphic water-stage recorder, Parshall flume, and concrete control. Altitude of gage is 7,005 ft (from Southern California Edison Co. contour map). Prior to Sept. 29, 1940, at site 10 ft downstream at same datum.

AVERAGE DISCHARGE.--40 years, 38.7 cfs (28,020 acre-ft per year).

EXTREMES.--Maximum discharge during year, 1,620 cfs Dec. 6 (gage height, 8.82 ft); minimum daily, 0.30 cfs Oct. 1-17, Oct. 27 to Nov. 6.

1927-67: Maximum discharge, 3,670 cfs Dec. 23, 1955 (gage height, 11.20 ft), from rating curve extended above 1,100 cfs on basis of slope-area measurement at gage height 10.77 ft; no flow Oct. 15-18, 1931.

REMARKS.--Records good. No diversion above station; practically all flow diverted below station to Huntington-Shaver conduit. See schematic diagram of San Joaquin River basin.

COOPERATION.--Gage-height record and 10 discharge measurements furnished by Southern California Edison Co. in connection with a Federal Power Commission project.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.30	0.30	9.4	22	24	26	56	41	240	365	19	4.4
2	.30	.30	8.0	21	22	28	53	38	211	336	18	6.2
3	.30	.30	16	20	23	28	52	40	262	296	16	7.2
4	.30	.30	13	20	23	28	49	44	325	264	16	5.8
5	.30	.30	56	20	23	28	48	41	311	225	14	6.2
6	.30	.30	1.030	20	23	28	47	45	300	203	13	5.2
7	.30	.40	230	19	23	28	45	68	395	180	13	4.4
8	.30	1.1	102	18	24	28	46	104	415	157	11	4.0
9	.30	.80	71	18	25	30	46	126	420	140	11	3.8
10	.30	.60	55	19	27	30	47	107	443	127	10	3.6
11	.30	.60	48	18	28	27	46	84	443	121	9.4	3.4
12	.30	.70	43	19	30	40	44	75	437	115	9.0	3.0
13	.30	.60	41	18	30	44	44	77	398	107	8.3	2.8
14	.30	.60	37	18	30	52	47	104	374	100	8.6	2.7
15	.30	.60	35	18	25	42	46	155	418	114	13	2.5
16	.30	3.0	34	18	24	180	49	210	420	98	13	2.3
17	.30	2.3	33	18	23	307	45	276	455	76	11	2.2
18	.40	1.3	33	18	23	214	42	327	515	65	12	6.1
19	.40	1.1	31	18	23	147	45	355	461	58	8.6	6.6
20	.40	1.1	29	18	23	117	45	388	491	51	7.2	4.2
21	.40	4.5	25	22	24	97	41	458	545	45	6.2	3.3
22	.40	2.8	17	20	24	97	41	524	479	41	5.5	3.4
23	.40	2.1	18	24	24	94	41	539	440	37	5.5	4.4
24	.40	1.7	18	19	25	84	39	560	449	34	5.8	4.9
25	.40	1.4	18	19	25	77	41	530	440	32	6.9	4.2
26	.40	1.3	17	23	25	69	40	521	420	30	8.3	3.5
27	.30	1.5	10	25	25	67	42	509	405	27	6.2	2.9
28	.30	29	22	25	25	72	39	485	390	25	5.4	2.9
29	.30	23	25	27	- - - -	67	38	452	390	24	4.9	4.3
30	.30	13	24	27	- - - -	63	37	408	380	22	4.3	3.9
31	.30	- - - -	22	28	- - - -	57	- - - -	331	- - - -	21	4.0	- - - -
Total	10.20	106.80	2,170.4	637	693	2,296	1,341	9,022	12,072	3,536	30.41	124.3
Mean	.33	3.56	70.0	20.5	24.8	74.1	44.7	259	402	114	9.81	4.14
Max	.40	.29	1.030	28	30	307	56	560	545	365	19	7.2
Min	.30	.30	8.0	18	22	26	37	38	211	21	4.0	2.2
Ac-ft	20	212	4,300	1,260	1,370	4,550	2,660	15,910	23,940	7,010	603	247

Cal yr 1966: Total 13,852.2 Mean 38.0 Max 1.030 Min .20 Ac-ft 27,480
 Wtr yr 1967: Total 31,312.8 Mean 85.8 Max 1.030 Min .30 Ac-ft 62,110

Peak discharge (base, 200 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 6	0900	8.82	1,620	6-21	1830	7.22	788
3-16	1800	7.00	700	7-15	1900	5.17	211
5-24	1700	7.27	808				

11-2390. HUNTINGTON-SHAVER CONDUIT OUTLET NEAR SHAVER LAKE, CALIF.

LOCATION.--Lat 37°09'15", long 119°13'50", in NW¼ sec.15, T.9 S., R.25 E., on left bank at tunnel outlet, 2.3 miles northeast of Shaver Lake, and 3.5 miles south of town of Big Creek.

RECORDS AVAILABLE.--October 1928 to September 1967. Monthly discharge only for October 1928, published in WSP 1315-A. Prior to October 1962, published as Huntington-Shaver conduit at outlet.

GAGE.--Graphic water-stage recorder and concrete control. Altitude of gage is 6,680 ft (from topographic map).

AVERAGE DISCHARGE.--39 years, 219 cfs (158,500 acre-ft per year).

EXTREMES.--1928-67: Maximum daily discharge, 1,780 cfs June 3, 4, 1938; minimum daily, 0.90 cfs Sept. 8-11, 1955, Nov. 15, 19, 26, 27, 1966.

REMARKS.--Records good. Conduit diverts from Huntington Lake to Shaver Lake, with additions from Pitman Creek and seepage en route. See schematic diagram of San Joaquin River basin.

COOPERATION.--Gage-height record and 13 discharge measurements furnished by Southern California Edison Co. in connection with a Federal Power Commission project.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		1.2	8.8	24	97	390	457	42	1.490	1.620	622	418
2	2.6	1.1	5.7	23	492	388	439	44	1.470	1.610	658	421
3	2.6	1.1	15	22	651	385	498	45	1.490	1.590	684	422
4	2.8	1.1	13	22	646	381	648	48	1.530	1.580	684	421
5	2.6	1.1	25	22	640	375	612	46	1.520	1.570	685	421
6												
7	2.1	1.1	997	22	633	371	569	50	1.520	1.560	685	418
8	1.9	1.1	1,300	21	553	367	812	75	1.560	1.550	685	416
9	1.9	1.1	599	20	352	366	919	120	1.570	1.540	684	274
10	1.9	1.1	265	20	326	364	662	140	1.570	1.540	642	192
11	1.6	1.1	247	20	463	175	476	120	1.570	1.530	621	192
12												
13	1.6	1.1	238	20	438	47	338	100	1.560	1.530	621	191
14	1.6	1.1	232	22	438	44	222	90	1.580	1.520	619	191
15	1.4	1.1	230	22	438	46	141	90	1.580	1.220	619	191
16	1.4	1.1	226	22	434	50	91	115	1.580	1.010	617	90
17	1.4	.90	223	22	430	52	60	160	1.600	1.050	624	34
18												
19	1.4	1.6	222	23	426	63	50	220	1.620	1.030	624	34
20	1.4	1.9	219	22	422	153	49	291	1.630	1.010	564	34
21	1.4	1.1	217	22	421	232	47	340	1.650	1.010	646	38
22	1.4	.90	186	21	421	170	47	370	1.640	1.010	581	252
23	1.4	11	137	21	418	480	47	412	1.640	828	519	375
24												
25	1.4	5.1	72	24	415	702	44	480	1.640	551	478	374
26	1.4	2.6	19	22	412	694	46	564	1.640	630	424	373
27	1.4	1.6	20	24	408	689	45	796	1.630	963	422	373
28	1.4	1.2	20	21	403	588	44	1,110	1.630	878	422	373
29	1.4	1.1	20	22	400	494	44	1,340	1.630	624	424	371
30												
31	1.4	.90	19	25	397	488	45	1,490	1.630	718	427	160
32	1.4	.90	12	27	394	482	47	1,600	1.630	716	424	34
33	1.4	22	26	26	391	486	45	1,590	1.620	718	422	34
34	1.4	27	27	28	-----	480	43	1,580	1.630	682	421	35
35	1.4	13	26	29	-----	463	42	1,560	1.630	631	420	35
36	1.2	-----	24	30	-----	464	-----	1,530	-----	631	420	-----
Total	52.2	108.3	5890.5	7.1	12,359	10,929	7,629	16,558	47,680	34,650	17,388	7,187
Mean	1.68	3.61	190	22.9	441	353	254	534	1.589	1.118	561	240
Max	2.8	27	1,300	30	651	702	919	1,600	1.650	1.620	685	422
Min	1.2	.90	5.7	20	97	44	42	42	1.470	551	420	34
Ac-ft	104	215	11,680	1,410	24,510	21,680	15,130	32,840	94,570	68,730	34,490	14,260

Cal yr 1966: Total 68,939.8 Mean 189 Max 1,300 Min .90 Ac-ft 136,700
 Wtr yr 1967: Total 161,142.0 Mean 441 Max 1,650 Min .90 Ac-ft 319,600

SAN JOAQUIN RIVER BASIN

11-2395. SHAVER LAKE NEAR BIG CREEK, CALIF.

LOCATION.--Lat 37°08'40", long 119°18'10", in SE $\frac{1}{4}$ sec.13, T.9 S., R.24 E., near center of dam on Stevenson Creek, 6 miles southwest of town of Big Creek.

DRAINAGE AREA.--29.1 sq mi.

RECORDS AVAILABLE.--November 1909 to September 1967. Prior to January 1927, monthly contents only, published in WSP 1315-A.

GAGE.--Graphic water-stage recorder. Datum of gage is at mean sea level (levels by Southern California Edison Co.). Prior to Jan. 11, 1927, gage on rock-filled dam a short distance upstream at different datum.

EXTREMES.--Maximum contents during year, 135,400 acre-ft Aug. 7-9; maximum elevation, 5,370.07 ft Aug. 9; minimum contents, 16,800 acre-ft May 16 (elevation, 5,291.54 ft).

1909-67: Maximum contents, 135,900 acre-ft July 5, 1946 (elevation, 5,370.25 ft); minimum, 26 acre-ft Jan. 29, 1927, during period of construction.

NOTE.--Prior to 1960, maximum and minimum daily contents were published.

REMARKS.--Storage began prior to 1905. Original lake formed by rock-filled dam (usable capacity, 5,500 acre-ft). Water diverted by Fresno Flume and Lumber Co.'s flumes Nos. 1 and 2 beginning prior to 1907 and discontinued July 7, 1920. Present lake formed by concrete-arch dam; dam completed Nov. 18, 1927. Usable capacity of present lake, 135,300 acre-ft between elevations 5,225 (trash-rack foundation) and 5,370 ft (crest of spillway) above mean sea level. Water is received from Pitman Creek (since Feb. 22, 1928) and Huntington Lake (since Apr. 21, 1928) through Huntington-Shaver conduit and released for power development in Big Creek plants. See schematic diagram of San Joaquin River basin. Figures given herein represent usable contents.

COOPERATION.--Record of contents furnished by Southern California Edison Co. in connection with a Federal Power Commission project.

CAPACITY TABLE (ELEVATION, IN FEET, AND CONTENTS, IN ACRE-FEET)

5,225	0	5,280	9,190
5,230	42	5,290	15,600
5,235	97	5,300	24,000
5,240	191	5,310	34,500
5,245	379	5,320	46,800
5,250	700	5,330	60,900
5,255	1,250	5,340	76,700
5,260	2,070	5,350	94,600
5,265	3,210	5,360	114,200
5,270	4,750	5,371	137,500

CONTENTS, IN THOUSANDS OF ACRE-FEET, AT 2400 HOURS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	74.7	65.8	57.0	50.5	26.2	25.6	40.7	25.3	42.9	107.0	135.0	132.2
2	74.5	65.4	57.7	49.6	26.2	25.6	40.6	24.3	44.9	109.0	135.0	131.9
3	74.2	65.1	57.8	48.6	26.8	25.7	40.6	23.5	47.0	110.9	135.1	131.7
4	74.0	64.7	57.7	48.3	27.1	26.6	41.0	22.7	49.2	112.8	135.2	131.4
5	73.8	64.4	59.6	46.7	27.7	27.4	41.1	21.8	51.4	114.7	135.2	131.1
6	73.4	64.2	64.8	45.7	28.0	27.8	41.3	21.2	53.5	116.6	135.3	130.8
7	73.2	63.9	67.2	44.7	28.1	27.8	42.0	20.5	55.7	118.3	135.4	130.5
8	73.0	63.5	67.9	43.7	27.9	27.9	42.8	20.1	57.9	120.1	135.4	130.0
9	72.7	63.2	67.5	42.7	27.6	28.6	43.1	19.8	60.0	121.9	135.4	129.6
10	72.3	62.8	67.1	41.7	27.5	29.0	43.1	19.5	62.2	123.6	135.3	129.0
11	72.0	62.5	66.7	40.7	27.3	29.4	42.8	18.9	64.3	125.4	135.3	128.3
12	71.6	62.1	66.2	39.7	27.0	29.8	42.2	18.3	66.4	127.1	135.2	127.5
13	71.2	61.8	65.7	38.7	26.8	30.1	41.5	17.6	68.5	128.3	135.2	126.8
14	70.9	61.4	65.1	37.7	26.8	30.4	40.7	17.1	70.6	129.0	135.1	125.9
15	70.5	61.1	64.5	36.9	26.7	30.7	39.9	16.9	72.7	130.1	135.1	124.8
16	70.1	60.9	64.0	35.8	26.8	32.5	39.0	16.9	74.9	130.9	135.0	123.8
17	69.8	60.5	63.4	34.8	26.9	33.6	38.0	17.1	77.0	131.6	135.0	122.7
18	69.5	60.2	62.8	33.8	27.0	34.6	37.3	17.5	79.3	132.4	135.2	121.8
19	69.2	60.2	62.1	32.8	27.0	35.3	36.5	18.0	81.5	133.1	135.2	121.2
20	69.2	60.1	61.5	31.8	27.0	36.3	35.5	18.8	83.7	133.4	135.2	120.8
21	69.2	59.8	60.9	31.3	26.9	37.1	34.7	19.6	85.9	133.3	135.0	120.4
22	69.1	59.5	59.9	30.7	26.7	37.8	33.8	20.6	88.1	133.3	134.7	120.1
23	68.8	59.2	58.9	29.9	26.6	38.8	32.8	22.1	90.2	133.9	134.5	119.9
24	68.4	58.9	57.9	29.2	26.6	39.2	31.9	24.0	92.6	134.4	134.2	119.5
25	68.2	58.6	57.0	28.3	26.4	39.5	30.9	26.2	94.7	134.4	134.0	119.1
26	67.8	58.2	56.3	27.3	26.0	39.7	30.0	28.7	96.8	134.6	133.9	118.3
27	67.4	57.9	55.4	26.5	25.7	39.9	29.1	31.3	98.8	134.7	133.6	117.4
28	67.1	57.8	54.4	25.6	25.5	40.2	28.2	33.8	100.9	134.9	133.3	116.3
29	66.8	57.7	53.5	25.4	-----	40.4	27.2	36.3	103.0	135.0	133.0	115.3
30	66.5	57.4	52.5	26.0	-----	40.7	26.3	38.6	105.0	135.0	132.8	114.3
31	66.1	-----	51.5	26.4	-----	40.8	-----	40.9	-----	135.0	132.5	-----
(†)	5,333.42	5,327.60	5,323.46	5,302.44	5,301.53	5,315.33	5,302.32	5,315.37	5,355.38	5,369.88	5,368.72	5,360.03
(‡)	-8,800	-8,700	-5,900	-25,100	-900	+15,300	-14,500	+14,600	+64,100	+30,000	-2,500	-18,200
Max	74.7	65.8	67.9	50.5	28.1	40.8	43.1	40.9	105.0	135.0	135.4	132.2
Min	66.1	57.4	51.5	25.4	25.5	25.6	26.3	16.9	42.9	107.0	132.5	114.3

Cal yr 1966..... ++13,500

Wtr yr 1967..... ++34,400

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-feet.

SAN JOAQUIN RIVER BASIN

635

11-2419.5. REDINGER LAKE NEAR AUBERRY, CALIF.

LOCATION.--Lat 37°08'40", long 119°27'00", in SW¼ sec.15, T.9 S., R.23 E., on upstream face of dam No. 7 on San Joaquin River, 4.2 miles northeast of Auberry.

DRAINAGE AREA.--1,295 sq mi.

RECORDS AVAILABLE.--November 1950 to September 1967. Prior to October 1965, collected by Southern California Edison Co., available in files of California district office.

GAGE.--Graphic water-stage recorder. Datum of gage is at mean sea level (levels by Southern California Edison Co.).

EXTREMES.--Maximum contents during year, 26,000 acre-ft Sept. 4 (elevation, 1,402.82 ft); minimum, 9,080 acre-ft Sept. 30 (elevation, 1,361.08 ft).
1950-67: Maximum contents, 26,100 acre-ft June 15, 1963, Oct. 29, 1964; maximum elevation, 1,402.95 ft June 15, 1963; minimum contents since appreciable storage was attained, 6,280 acre-ft Mar. 3, 1956 (elevation, 1,347.98 ft).

REMARKS.--Lake is formed by a concrete dam; storage began Nov. 19, 1950. Usable capacity, 26,119 acre-ft between elevations 1,320.0 (invert of tunnel) and 1,403.0 ft (top of radial gates). Additional storage of 8,914 acre-ft is not available for release. Water is used for power development in Big Creek powerhouse No. 4. See schematic diagram of San Joaquin River basin. Figures given herein represent usable contents.

COOPERATION.--Records of contents furnished by Southern California Edison Co. in connection with a Federal Power Commission project.

CAPACITY TABLE (ELEVATION, IN FEET, AND CONTENTS, IN ACRE-FEET)

1,320	0	1,355	8,200
1,322	384	1,360	9,650
1,324	778	1,365	11,200
1,326	1,180	1,370	12,900
1,328	1,590	1,375	14,600
1,330	2,010	1,380	16,500
1,335	3,120	1,385	18,400
1,340	4,280	1,390	20,400
1,345	5,520	1,400	24,700
1,350	6,810	1,403	26,119

CONTENTS, IN THOUSANDS OF ACRE-FEET, AT 2400 HOURS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	25.7	25.7	24.1	24.9	25.2	24.7	25.9	25.9	25.1	25.1	25.9	25.6
2	25.6	25.6	23.8	25.0	23.8	24.6	25.7	25.9	25.3	25.3	25.8	25.7
3	25.7	25.6	23.7	25.1	23.8	24.3	25.9	25.9	25.2	25.1	25.9	25.7
4	25.7	25.6	22.3	25.3	24.2	23.6	25.9	25.9	25.1	25.2	25.9	25.5
5	25.6	25.5	24.4	25.2	23.9	22.6	25.8	25.7	25.3	25.2	25.9	25.5
6	25.7	25.6	25.4	25.4	24.1	21.9	25.8	25.8	25.0	25.4	25.9	25.5
7	25.8	25.7	24.5	25.1	24.3	21.8	25.6	25.9	25.3	25.2	25.9	25.5
8	25.7	25.7	25.1	25.2	24.5	21.6	25.8	25.8	25.2	25.4	25.9	25.4
9	25.8	25.7	25.1	25.0	24.7	22.1	25.9	25.8	25.2	25.3	25.9	25.4
10	25.7	25.7	24.9	25.3	24.9	22.9	25.9	25.7	25.2	25.4	25.9	25.4
11	25.8	25.7	24.6	25.2	25.0	23.8	25.8	25.8	25.3	25.4	25.5	25.4
12	25.8	25.7	24.1	25.2	25.1	25.5	25.8	25.7	25.0	25.5	25.2	25.1
13	25.8	25.7	23.6	25.2	25.3	25.7	25.7	25.9	25.0	25.5	25.3	24.0
14	25.9	25.6	23.4	25.2	25.5	25.7	25.7	25.7	25.3	25.4	25.2	22.9
15	25.8	25.7	23.3	25.3	25.6	25.5	25.8	25.9	25.2	25.4	25.2	21.8
16	25.9	25.7	23.4	25.3	25.5	25.8	25.8	25.8	25.4	25.2	25.3	20.6
17	25.8	25.8	23.4	25.3	25.3	25.8	25.6	25.8	25.4	25.2	25.2	19.2
18	25.6	25.8	23.6	25.3	25.0	25.5	25.8	25.8	25.5	25.2	25.2	17.7
19	25.3	25.8	23.6	25.2	24.6	25.1	25.6	25.9	24.9	25.4	25.3	16.5
20	24.6	25.6	23.5	25.2	24.4	24.8	25.8	25.7	25.5	25.4	25.3	15.5
21	24.6	25.6	23.4	24.9	24.3	25.4	25.7	25.8	25.7	25.2	25.3	14.8
22	25.2	25.6	23.5	23.6	24.5	25.7	25.8	24.8	25.2	25.6	25.4	14.1
23	25.5	25.7	24.0	24.1	24.5	25.9	25.9	24.4	25.3	25.3	25.3	13.5
24	25.7	25.5	24.6	24.5	24.4	25.7	25.7	25.0	25.3	25.5	25.4	12.9
25	25.7	25.6	25.1	23.8	24.6	25.8	25.9	25.0	25.4	25.7	25.3	12.0
26	25.8	25.7	25.4	23.7	24.7	25.7	25.7	24.8	25.3	25.8	25.5	11.1
27	25.8	25.7	25.5	23.8	24.8	25.7	25.9	24.4	25.2	25.7	25.4	10.6
28	25.7	25.3	25.5	23.7	24.9	25.8	25.8	24.5	25.4	25.8	25.4	10.4
29	25.7	24.0	25.2	24.0	-----	25.8	25.4	25.1	25.4	25.8	25.4	10.3
30	25.6	24.1	24.8	25.0	-----	25.9	25.6	25.0	25.2	25.7	25.5	10.4
31	25.7	-----	24.8	25.8	-----	25.8	-----	25.1	-----	25.8	25.5	-----
(+)	1,402.14	1,398.45	1,400.12	1,402.25	1,400.30	1,402.41	1,401.98	1,400.70	1,400.91	1,402.37	1,401.62	1,362.30
(#)	0	-1,600	+700	+1,000	-900	+900	-200	-500	+100	+600	-300	-15,100
Max	25.9	25.8	25.5	25.8	25.6	25.9	25.9	25.9	25.7	25.8	25.9	25.7
Min	24.6	24.0	22.3	23.6	23.8	21.6	25.4	24.4	24.9	25.1	25.2	10.3

Cal yr 1966..... +800

Wtr yr 1967..... +15,300

+ Elevation, in feet, at end of month.

Change in contents, in acre-feet.

SAN JOAQUIN RIVER BASIN

11-2420. SAN JOAQUIN RIVER ABOVE WILLOW CREEK, NEAR AUBERRY, CALIF.

LOCATION.--Lat 37°08'40", long 119°27'00", in SW $\frac{1}{4}$ sec.15, T.9 S., R.23 E., on right bank 1,000 ft downstream from diversion dam, 0.4 mile upstream from Willow Creek, and 4.2 miles northeast of Auberry.

DRAINAGE AREA.--1,295 sq mi.

RECORDS AVAILABLE.--March 1951 to September 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is 1,175.54 ft above mean sea level (levels by Southern California Edison Co.).

AVERAGE DISCHARGE.--16 years, 409 cfs (296,100 acre-ft per year).

EXTREMES.--Maximum discharge during year, 15,000 cfs Dec. 6 (gage height, 23.56 ft), from rating curve extended above 7,000 cfs as explained below; minimum daily, 3.0 cfs Dec. 8.

1951-67: Maximum discharge, 73,200 cfs Dec. 23, 1955 (gage height, 54.2 ft, from floodmarks), from rating curve extended above 7,000 cfs on basis of computed flow over dam; no flow Sept. 25, 1951.

REMARKS.--Records good. Flow regulated by nine powerplants and six reservoirs with combined capacity of about 559,900 acre-ft. Conduit to powerhouse No. 4 diverts 1,000 ft above station. See schematic diagram of San Joaquin River basin.

COOPERATION.--Gage-height record and 13 discharge measurements furnished by Southern California Edison Co. in connection with a Federal Power Commission project.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	22	23	14	4.3	4.7	4.0	422	524	4,010	13,100	1,740	16
2	22	22	15	4.3	4.2	3.9	602	724	2,770	13,000	1,070	16
3	22	21	9.8	4.0	4.2	3.9	430	724	2,670	12,600	254	16
4	22	21	9.5	4.0	4.2	4.0	668	484	3,480	11,400	124	16
5	22	21	8.6	4.3	4.1	3.9	840	158	3,750	11,100	128	16
6	22	20	5,690	4.3	4.1	3.9	732	317	3,790	8,980	27	16
7	22	20	4.8	6.5	4.0	3.9	1,540	768	4,160	7,900	27	16
8	22	20	3.0	8.4	4.0	3.8	738	1,090	5,430	6,640	27	16
9	22	19	3.3	8.0	3.9	3.8	688	972	5,940	5,990	27	16
10	22	19	3.4	7.8	3.9	3.9	684	1,480	5,990	5,000	27	16
11	22	19	3.4	8.1	3.9	4.3	877	865	6,270	3,460	21	16
12	22	19	3.3	8.6	4.0	4.4	688	856	6,510	3,580	12	16
13	22	19	3.3	8.8	4.0	361	688	700	5,870	3,890	12	16
14	22	19	3.3	8.8	4.0	145	692	885	5,130	5,420	12	16
15	22	20	3.3	9.8	4.0	4.8	688	828	5,720	4,420	12	15
16	22	18	3.3	8.6	4.0	2,320	684	1,090	6,710	5,740	12	15
17	22	13	3.6	9.1	4.1	910	672	1,100	6,970	4,260	13	15
18	22	17	4.0	9.3	4.1	187	880	1,100	7,850	2,870	14	15
19	22	18	4.0	9.1	4.1	4.2	1,020	1,100	8,750	2,370	14	13
20	22	17	4.3	9.6	4.1	4.3	696	1,100	7,000	2,510	14	14
21	22	14	4.0	4.8	4.1	8.6	875	1,120	8,220	2,210	14	14
22	23	16	4.0	3.8	4.0	137	870	3,180	9,000	2,370	14	14
23	22	15	4.0	3.7	4.0	116	772	9,780	8,830	3,060	14	14
24	22	17	3.6	4.3	3.9	386	1,210	9,640	9,200	2,360	14	14
25	23	18	3.3	4.3	4.1	163	840	9,580	9,950	2,020	16	14
26	23	18	4.0	4.2	4.1	253	913	9,710	10,500	2,250	16	14
27	23	18	4.0	5.5	4.1	204	760	9,570	10,600	2,100	15	14
28	23	18	5.0	4.5	4.0	212	915	8,390	11,200	1,670	14	14
29	23	8.4	5.5	4.1	-----	375	708	6,880	11,400	2,010	15	15
30	23	11	6.5	6.0	-----	176	297	6,630	11,900	2,160	16	15
31	23	-----	5.4	31.9	-----	390	-----	5,740	-----	1,760	16	-----
Total	690	538.4	5,846.5	509.9	113.9	6,404.6	23,089	97,085	209,570	158,200	3,751	453
Mean	22.3	17.9	18.9	16.4	4.07	207	770	3,132	6,986	5,103	121	15.1
Max	23	23	5,690	31.9	4.7	2,320	1,540	9,780	11,900	13,100	1,740	16
Min	22	8.4	3.0	4.0	3.9	3.8	297	158	2,670	1,670	12	13
Ac-ft	1,370	1,070	11,600	1,010	226	12,700	45,800	192,600	415,700	313,800	7,440	899
Cal yr 1966 : Total	10,178.5		27.9		5,690		3.0		20,190			
Wtr yr 1967 : Total	506,251.3		Mean 1,387		Max 13,100		Min 3.0		Ac-ft 1,004,000			

11-2424. NORTH FORK WILLOW CREEK NEAR SUGAR PINE, CALIF.

LOCATION.--Lat 37°23'50", long 119°33'55", in NE¼ sec.21, T.6 S., R.22 E., on right bank at road bridge 0.6 mile downstream from Soquel campground, 3.0 miles upstream from Chilkoot Creek, and 4.6 miles southeast of Sugar Pine.

DRAINAGE AREA.--16.9 sq mi.

RECORDS AVAILABLE.--August 1965 to September 1967.

GAGE.--Graphic water-stage recorder. Altitude of gage is 5,200 ft (from topographic map).

EXTREMES.--Maximum discharge during year, 1,600 cfs Dec. 6 (gage height, 5.90 ft), from rating curve extended above 250 cfs as explained below; minimum daily, 1.3 cfs for many days.

1965-67: Maximum discharge, 1,600 cfs Dec. 6, 1966 (gage height, 5.90 ft), from rating curve extended above 250 cfs on basis of a step-backwater survey; minimum daily, 1.2 cfs Nov. 7, 8, 1965.

REVISIONS.--The maximum discharge for the water year 1966 has been revised to 252 cfs Nov. 23, 1965 (gage height, 3.82 ft) superseding figure published in Surface Water Records of California, Part 1, Vol. 2, 1966.

REMARKS.--Records good. No storage above station. Madera irrigation district diverts up to 80 cfs through Soquel ditch to the Fresno River basin 2.2 miles upstream.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.5	1.3	3.7	12	40	7.7	35	30	125	135	6.0	9.6
2	1.5	1.3	70	11	31	8.0	27	35	115	125	5.8	9.9
3	1.5	1.3	114	11	27	8.0	24	39	119	111	5.8	9.9
4	1.5	1.3	27	11	25	7.4	25	43	125	91	5.8	9.6
5	1.4	1.3	200	11	25	7.4	26	44	139	88	5.5	9.6
6	1.3	2.1	881	10	25	7.4	22	49	121	80	5.5	9.3
7	1.3	2.8	160	10	25	7.4	25	68	125	80	5.5	9.0
8	1.3	1.9	80	10	24	7.7	22	90	132	63	5.5	8.4
9	1.3	1.7	58	10	24	7.4	24	100	132	52	5.2	7.5
10	1.3	1.7	48	10	27	7.4	24	103	138	47	5.0	7.2
11	1.3	1.6	41	11	27	24	39	82	139	41	5.0	7.2
12	1.3	1.6	25	11	28	192	28	72	135	39	4.5	7.5
13	1.4	1.6	7.7	10	28	313	28	72	132	32	4.5	8.1
14	1.7	1.5	5.7	10	27	248	30	88	125	25	4.2	8.1
15	1.7	1.5	9.6	10	23	87	29	105	140	26	4.2	7.8
16	1.6	1.7	16	10	21	213	29	135	150	22	4.2	7.8
17	1.5	3.6	15	10	20	139	26	174	159	17	4.2	7.8
18	1.5	2.5	15	9.8	20	83	35	201	165	15	4.0	14
19	1.5	2.9	15	9.8	20	62	57	217	165	11	3.8	8.7
20	1.5	20	15	13	19	52	49	252	174	8.7	4.0	8.1
21	1.5	7.2	14	33	19	49	44	308	180	7.8	4.2	7.8
22	1.5	4.3	13	17	19	52	43	335	168	7.2	4.2	7.8
23	1.4	3.4	13	15	14	49	43	328	162	6.6	4.0	3.4
24	1.4	2.8	13	15	8.0	44	40	292	159	6.3	3.8	9.4
25	1.5	2.5	13	16	8.7	39	33	270	159	6.3	4.0	9.8
26	1.4	2.5	12	16	8.0	36	34	248	150	6.3	4.2	8.1
27	1.4	2.6	13	17	7.7	37	36	228	148	7.2	4.8	7.8
28	1.4	40	13	17	7.7	48	31	207	145	7.5	7.2	7.8
29	1.3	21	13	47	-----	47	29	192	145	7.2	10	8.1
30	1.3	4.6	12	71	-----	36	29	174	145	6.6	9.9	7.8
31	1.3	-----	12	64	-----	39	-----	150	-----	6.3	9.6	-----
Total	44.3	161.4	1,947.7	538.6	595.1	1,963.8	965	4,731	4,314	1,184.0	164.1	257.9
Mean	1.43	5.38	62.8	17.4	21.3	63.3	32.2	153	144	38.2	5.29	8.60
Max	1.7	40	881	71	40	313	57	335	180	135	10	14
Min	1.3	1.3	3.7	9.8	7.7	7.4	22	30	115	6.3	3.8	7.2
Ac-ft	88	320	3,860	1,070	1,180	3,900	1,910	9,380	8,560	2,350	325	512
(†)	78	274	496	417	565	1,570	896	906	2,130	1,330	341	125

Calendar year 1966: Total 5,242.3 Mean 14.4 Max 881 Min 1.3 Ac-ft 10,400
 Water year 1966-67: Total 16,866.9 Mean 46.2 Max 881 Min 1.3 Ac-ft 10,220

Peak discharge (base, 100 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-28	1700	3.36	117	3-13	2200	4.26	440
12-02	2400	3.94	296	3-16	1700	4.31	465
12-06	1300	5.90	1,600	5-22	1900	4.25	435
1-30	1900	3.35	115				

† Diversion to Soquel ditch in acre-feet; furnished by Madera Irrigation District.

SAN JOAQUIN RIVER BASIN

11-2434. BASS LAKE NEAR BASS LAKE, CALIF.

LOCATION.--Lat 37°17'36", long 119°31'40", in NE $\frac{1}{4}$ sec. 26, T.7 S., R. 22 E., at outlet tower at dam on North Fork Willow Creek, 2.2 miles southeast of town of Bass Lake, and 5 miles north of town of North Fork.

DRAINAGE AREA.--50.4 sq mi.

RECORDS AVAILABLE.--January 1912 to September 1967. Bass Lake was formerly called Crane Valley Reservoir.

GAGE.--Graphic water-stage recorder. Datum of gage is mean sea level (levels by Pacific Gas and Electric Co.).

EXTREMES.--Maximum contents during year, 45,370 acre-ft July 5 (elevation, 3,376.37 ft); minimum, 21,560 acre-ft Oct. 25-27 (elevation, 3,352.45 ft).

1911-67: Maximum contents, 45,960 acre-ft June 17, 1923 (elevation, 3,376.8 ft); minimum, 35 acre-ft Nov. 19, 1953 (elevation, 3,270.2 ft).

REMARKS.--Reservoir formed by earth- and rock-fill dam; completed in 1901 and raised in 1910. Since 1910 usable contents 45,100 acre-ft between elevations, 3,280.22 (invert of outlet conduit No. 3) and 3,376.40 ft (top of spillway gates) above mean sea level. Additional storage of 300 acre-ft not available for release. Water is released through Crane Valley powerhouse below dam for use in three small powerhouses before being discharged into Kerckhoff Reservoir at Wishon powerhouse. Water diverted from South Fork Willow Creek via Browns Creek ditch into Bass Lake near left end of dam. Madera Irrigation District has water rights to divert up to 50 cfs from North Fork Willow Creek through Soquel ditch into Nelder Creek (Fresno River basin) during October and March to July each year. Chilkoot ditch can divert up to 7 cfs from Chilkoot Creek into North Fork Willow Creek just upstream from diversion dam from Oct. 1 to Aug. 1 each water year if available. See schematic diagram of San Joaquin River basin.

COOPERATION.--Record of contents furnished by Pacific Gas and Electric Co.

Month-end contents, in acre-feet, at 2400 hours, water year October 1966 to September 1967

Date	Contents
Sept. 30.....	23,020
Oct. 31.....	21,580
Nov. 30.....	22,810
Dec. 31.....	28,930
Jan. 31.....	25,900
Feb. 28.....	25,080
Mar. 31.....	30,090
Apr. 30.....	36,200
May 31.....	42,810
June 30.....	45,270
July 31.....	42,470
Aug. 31.....	34,750
Sept. 30.....	26,890

11-2435. PACIFIC GAS AND ELECTRIC CO. CONDUIT NO. 3 NEAR BASS LAKE, CALIF.

LOCATION.--Lat 37°17'25", long 119°31'45", in SE $\frac{1}{4}$ sec.26, T.7 S., R.22 E., on left bank 1,000 ft downstream from Crane Valley powerhouse and dam and 2.5 miles southeast of town of Bass Lake.

RECORDS AVAILABLE.--October 1940 to September 1967. Prior to October 1954, published as "near Crane Valley Reservoir."

GAGE.--Digital water-stage recorder and concrete flume. Altitude of gage is 3,300 ft (from topographic map). Prior to May 13, 1965, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--27 years, 67.8 cfs (49,090 acre-ft per year).

EXTREMES.--1940-67: Maximum daily discharge, 167 cfs June 23, 24 1965; no flow at times.

REMARKS.--Records good. Conduit diverts from Bass Lake in sec.26, T.7 S., R.22 E. Water passed through Crane Valley powerhouse, then to powerhouse No. 3, and is stored temporarily at Manzanita Lake on North Fork Willow Creek; flow then diverted to powerhouses No. 2 and 1A before it enters San Joaquin River at Kerckhoff Reservoir through Wishon powerhouse No. 1. See schematic diagram of San Joaquin River basin.

COOPERATION.--Gage-height record and eight discharge measurements furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0	.30	3.4	144	141	140	138	45	144	148	149	151
2	5.8	.10	.20	144	141	140	138	.60	144	148	149	151
3	95	0	.10	145	141	132	138	.60	144	148	148	151
4	136	0	4.1	146	141	88	138	.50	145	148	148	151
5	136	0	39	147	141	140	138	.60	143	148	148	151
6	136	0	141	146	141	141	132	.60	141	148	147	150
7	98	0	144	144	141	139	136	.60	141	148	147	150
8	0	0	145	144	141	128	136	.60	141	147	148	150
9	0	6.6	144	144	141	118	136	.60	141	147	148	149
10	0	.10	143	144	141	94	132	.60	142	148	147	150
11	0	.10	143	143	141	.59	136	.60	142	148	147	150
12	0	.10	143	143	142	1.0	136	.60	141	148	147	149
13	0	.10	143	143	142	34	136	.50	141	149	147	145
14	0	.10	142	143	142	135	132	.50	144	149	148	150
15	0	.10	142	143	143	136	133	63	147	149	148	149
16	.40	.20	141	143	142	137	132	138	134	149	147	150
17	.40	.10	141	143	142	137	133	141	148	148	148	149
18	.40	.10	141	143	142	137	129	140	148	148	148	144
19	.40	.20	134	143	143	137	135	140	148	148	149	150
20	.40	.40	145	143	143	137	132	140	148	149	149	150
21	.50	7.8	145	142	143	137	132	140	148	150	149	151
22	.50	83	145	128	143	137	131	140	148	148	150	151
23	.50	91	145	121	144	137	129	140	148	149	151	151
24	.50	0	144	90	142	137	129	140	148	149	152	149
25	.40	46	144	10	136	137	129	140	148	148	152	149
26	.40	0	144	.10	140	137	129	142	150	148	153	150
27	.40	3.3	144	3.9	140	111	129	143	150	133	152	149
28	.40	.10	144	.20	140	136	131	143	149	130	152	149
29	.40	3.8	144	51	-----	136	134	143	148	148	150	150
30	.40	0	144	141	-----	136	134	144	148	149	150	149
31	.40	-----	144	141	-----	140	-----	144	-----	149	151	-----
TOTAL	613.60	243.60	3,765.80	3,706.20	3,960	3,732.59	4,003	2,373.50	4,352	4,564	4,619	4,488
MEAN	19.8	8.12	121	120	141	120	133	76.6	145	147	149	150
MAX	136	91	145	147	144	141	138	144	150	150	153	151
MIN	0	0	.10	.10	136	.59	129	.50	134	130	147	144
AC-FT	1,220	483	7,470	7,350	7,850	7,400	7,940	4,710	8,630	9,050	9,160	8,900

CAL YR 1966: TOTAL 20,118.70 MEAN 55.1 MAX 151 MIN 0 AC-FT 39,900
WAT YR 1967: TOTAL 40,421.29 MEAN 111 MAX 153 MIN 0 AC-FT 80,170

SAN JOAQUIN RIVER BASIN

11-2440. NORTH FORK WILLOW CREEK NEAR BASS LAKE, CALIF.

LOCATION.--Lat 37°17'20", long 119°31'45", in SE $\frac{1}{4}$ sec. 26, T.7 S.; R.22 E., on right bank 1,500 ft downstream from Bass Lake spillway and 2.5 miles southeast of town of Bass Lake.

DRAINAGE AREA.--50.8 sq mi.

RECORDS AVAILABLE.--May 1940 to September 1967. Prior to October 1944, published as Willow Creek below Crane Valley Reservoir. October 1944 to September 1954, published as "below Crane Valley Reservoir."

GAGE.--Graphic water-stage recorder and, since Dec. 21, 1961, broad-crested weir with V-notch. Altitude of gage is 3,200 ft (from topographic map).

AVERAGE DISCHARGE.--27 years, 15.0 cfs (10,860 acre-ft per year).

EXTREMES.--Maximum discharge during year, 678 cfs May 22 (gage height, 5.37 ft); minimum daily, 0.20 cfs Oct. 1, 2, 8-10, 16.
1940-67: Maximum discharge, 847 cfs Feb. 11, 1941 (gage height, 5.85 ft); minimum daily, 0.1 cfs Nov. 13-16, 1940.

REMARKS.--Records good. Flow regulated by Bass Lake (see sta. no. 2434) and by diversion into Pacific Gas and Electric Co. conduit No. 3 near Bass Lake (see sta. no. 2435). At times in October and March to July, up to 50 cfs may be diverted through Soquel ditch into Nelder Creek in Fresno River basin. Brown's ditch diverted 21,210 acre-ft from South Fork Willow Creek into Bass Lake in 1967. See schematic diagram of San Joaquin River basin.

COOPERATION.--Gage-height record and nine discharge measurements furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.20	0.30	0.30	0.40	1.2	0.30	1.0	99	2.5	172	1.1	0.70
2	.20	.40	.60	.40	.90	.30	1.3	146	2.5	123	1.1	.70
3	.30	.60	1.2	.38	.70	.30	1.2	146	2.4	39	1.1	.70
4	.30	.60	1.0	.75	.60	.39	2.0	147	2.4	2.2	1.1	.60
5	.30	.60	1.4	.37	.60	.40	2.0	146	2.6	33	1.1	.60
6	.30	.70	2.0	.40	.50	.40	1.9	146	7.5	22	1.1	.60
7	.30	.60	2.0	.30	.50	.30	7.5	146	204	2.1	1.1	.60
8	.20	.50	1.2	.30	.50	.30	2.0	146	122	1.9	1.1	.60
9	.20	.30	1.0	.30	.40	.30	1.5	147	66	1.9	1.1	.60
10	.20	.30	.90	.30	.40	.30	1.5	148	66	1.9	1.1	.50
11	21	.30	.90	.30	.40	2.8	1.8	148	66	1.9	1.0	.50
12	.30	.30	.80	.30	.40	1.2	1.5	171	66	1.9	1.0	.50
13	.30	.30	.80	.30	.40	.79	1.3	216	65	1.8	1.0	.50
14	.30	.30	.70	.30	.40	2.3	1.2	218	83	1.8	1.0	.40
15	.30	.30	.70	.30	.40	1.4	1.5	148	108	1.8	1.0	.40
16	.20	.80	.60	.30	.40	7.9	1.5	68	105	1.8	1.0	.40
17	.30	.40	.60	.30	.40	1.9	1.4	105	102	1.7	.90	.40
18	.30	.30	.60	.30	.40	1.2	3.9	318	102	1.6	.90	.60
19	.30	.30	.60	.30	.40	1.0	2.2	410	184	1.6	.90	.40
20	.30	.50	.60	.40	.40	.80	2.1	410	230	1.6	.90	.40
21	.30	.40	.50	.60	.40	.80	2.2	407	166	1.5	.90	.30
22	.30	.50	.50	1.4	.40	.70	2.3	569	144	1.5	.80	.30
23	.30	.40	.50	.70	.40	.70	2.4	670	144	1.4	.80	.30
24	.30	.30	.50	.30	.30	.70	3.9	658	144	1.4	.80	.30
25	.30	.30	.50	97	.50	.60	2.8	500	144	1.4	.80	.30
26	.30	.30	.40	113	.40	.60	3.1	251	108	1.3	.80	.30
27	.30	.30	.40	108	.40	11	4.3	120	76	1.3	.80	.40
28	.30	.40	.40	112	.40	.80	3.5	124	27	1.3	.80	.30
29	.30	.40	.40	71	---	.80	2.3	128	23	1.2	.80	.30
30	.30	.30	.40	59	---	.70	2.1	129	66	1.2	.80	.30
31	.30	---	.40	2.8	---	.80	---	62	---	1.2	.70	---
Total	294.0	123.0	594.0	670.90	135.0	99.30	69.2	7,247	2,677.7	431.2	294.0	138.0
Mean	.95	.41	1.92	21.6	.48	3.20	2.31	234	89.3	13.9	.95	.46
Max	21	.80	20	113	1.2	39	7.5	670	230	172	1.1	.70
Min	.20	.30	.30	.30	.30	.30	1.0	62	23	1.2	.70	.30
Ac-ft	58	24	118	1,330	27	197	137	14,370	5,310	855	58	27

Cal yr 1966: Total 270.3 Mean .74 Max 21 Min .20 Ac-ft 536
Wtr yr 1967: Total 11,353.1 Mean 31.1 Max 670 Min .20 Ac-ft 22,520

11-2465. WILLOW CREEK AT MOUTH, NEAR AUBERRY, CALIF.

LOCATION.--Lat 37°09'10", long 119°27'30", in NE¼ sec.16, T.9 S., R.23 E., on left bank 40 ft upstream from bridge, 0.4 mile upstream from mouth, 1.3 miles downstream from Whiskey Creek, and 4.3 miles northeast of Auberry.

DRAINAGE AREA.--130 sq mi.

RECORDS AVAILABLE.--January 1952 to September 1967.

GAGE.--Graphic water-stage recorder and, since Oct. 22, 1964, concrete control. Datum of gage is 1,174.69 ft above mean sea level (levels by Southern California Edison Co.).

AVERAGE DISCHARGE.--15 years, 53.7 cfs (38,880 acre-ft per year).

EXTREMES.--Maximum discharge during year, 6,760 cfs Dec. 6 (gage height, 18.20 ft); minimum daily, 0.1 cfs Oct. 1-3.

1952-67: Maximum discharge, 15,700 cfs Dec. 23, 1955 (gage height, 28.5 ft, from floodmarks), from rating curve extended above 4,700 cfs; no flow at times in 1955, 1959-62, 1964-66.

REMARKS.--Records good. Flow regulated by Bass Lake (see sta. no. 2434) and diversion into Pacific Gas and Electric Co. conduit No. 1. See schematic diagram of San Joaquin River basin. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

COOPERATION.--Gage-height record and 17 discharge measurements furnished by Southern California Edison Co. in connection with a Federal Power Commission project.

REVISIONS (water years).--1963 report: 1956-58(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.10	0.50	6.4	17	178	27	233	229	476	178	11	3.5
2	.10	.50	74	17	94	27	263	221	415	150	11	3.6
3	.10	.40	486	16	66	28	249	233	422	125	10	4.1
4	.20	.40	32	87	55	30	313	273	445	100	10	4.1
5	.60	.50	1,190	89	51	26	350	318	497	80	9.3	3.9
6	.60	.60	4,880	28	49	26	261	267	432	84	8.8	3.6
7	.60	1.2	780	17	46	26	587	338	602	78	8.5	3.5
8	.60	2.4	209	16	44	26	335	452	551	72	8.6	3.5
9	.60	2.2	104	15	42	26	257	521	455	66	8.3	3.3
10	.60	1.9	72	15	42	26	245	668	458	60	8.0	3.3
11	.50	1.5	50	15	44	38	322	545	445	54	7.7	3.0
12	.40	1.5	47	15	43	403	239	458	430	48	7.6	2.9
13	.40	1.5	38	15	44	585	207	440	410	43	6.8	3.0
14	.40	1.4	33	14	42	302	202	497	382	37	6.5	2.8
15	.60	1.4	30	14	38	136	239	593	425	31	6.4	2.6
16	.60	5.2	28	14	37	1,250	214	693	438	26	6.2	2.6
17	.50	7.3	26	14	36	772	189	818	425	21	5.8	2.6
18	.40	3.3	25	13	35	497	398	1,020	425	20	5.6	5.4
19	.40	2.3	26	13	35	362	392	1,210	450	20	5.5	7.2
20	.40	9.1	23	13	33	297	358	1,280	503	19	5.0	4.3
21	.30	7.2	22	36	32	281	395	1,360	450	18	4.7	3.4
22	.30	7.8	20	95	32	287	518	1,470	375	18	4.5	3.5
23	.40	6.2	20	38	32	269	400	1,590	352	17	4.5	4.1
24	.40	4.2	20	94	30	243	647	1,510	332	17	4.4	4.0
25	.40	3.8	19	100	36	209	432	1,370	310	16	5.0	4.0
26	.40	3.3	20	44	29	197	355	1,060	243	15	4.9	3.9
27	.50	3.2	18	38	28	188	342	838	220	14	4.5	3.5
28	.50	7.6	18	33	27	225	330	786	201	15	4.2	3.3
29	.50	37	19	111	- - - -	265	267	752	156	13	4.0	3.4
30	.50	9.7	18	371	- - - -	196	237	707	105	12	3.9	3.4
31	.50	- - - -	17	618	- - - -	229	- - - -	626	- - - -	12	3.6	- - - -
Total	13.40	135.10	9,370.4	2,035	1,300	7,499	9,776	23,143	11,830	1,479	204.8	109.3
Mean	.43	4.50	270	65.6	46.4	242	326	747	394	47.7	6.61	3.64
Max	.60	37	4,880	618	178	1,250	647	1,590	602	178	11	7.2
Min	.10	.40	6.4	13	27	26	189	221	105	12	3.6	2.6
Ac-ft	27	268	16,600	4,040	2,580	14,870	19,390	45,900	23,460	2,930	406	217

Cal yr 1966: Total 12,717.7 Mean 34.8 Max 4,880 Min 0 Ac-ft 25,230
Wtr yr 1967: Total 65,895.0 Mean 181 Max 4,880 Min .10 Ac-ft 130,700

SAN JOAQUIN RIVER BASIN

11-2470. SAN JOAQUIN RIVER BELOW KERCKHOFF POWERHOUSE, NEAR PRATHER, CALIF.

LOCATION.--Lat 37°04'45", long 119°33'35", in NW $\frac{1}{4}$ sec.10, T.10 S., R.22 E., on left bank 1.1 miles downstream from Kerckhoff powerhouse, 1.4 miles upstream from Big Sandy Creek, and 3.8 miles southeast of Prather.

DRAINAGE AREA.--1,481 sq mi.

RECORDS AVAILABLE.--April 1910 to September 1914, December 1936 to December 1937, December 1942 to September 1967. Published as "near North Fork" 1910-14 and as "below Kerckhoff powerhouse" 1915-62.

GAGE.--Graphic water-stage recorder. Datum of gage is 563.4 ft above mean sea level (levels by Bureau of Reclamation). Prior to Oct. 1, 1914, at site 11 miles upstream at different datum.

AVERAGE DISCHARGE.--28 years (1910-14, 1943-67), 2,338 cfs (1,693,000 acre-ft per year).

EXTREMES.--Maximum discharge during year, 28,800 cfs Dec. 6 (gage height, 31.60 ft); minimum daily, 82 cfs Oct. 22.

1910-14, 1936-37, 1942-67: Maximum discharge, 92,200 cfs Dec. 23, 1955 (gage height, 51.0 ft, from flood-marks), from rating curve extended above 20,000 cfs on basis of records for San Joaquin River above Willow Creek, near Auberry and Willow Creek at mouth, near Auberry; minimum daily, 24 cfs Sept. 26, 1966.

REMARKS.--Records excellent. Flow regulated by 12 powerplants and eight reservoirs with total usable capacity of 609,300 acre-ft. Earliest storage began in 1901 at Bass Lake (see sta. no. 2434). See records for Florence, Lake Thomas A. Edison, Mammoth Pool Reservoir, Huntington, and Shaver Lakes, given elsewhere in this report. Backwater from Millerton Lake has affected record at times since November 1947, when spillway gates were installed at Friant Dam. See schematic diagram of San Joaquin River basin. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

COOPERATION.--Gage-height record, telemark readings, and 12 discharge measurements furnished by Southern California Edison Co. in connection with a Federal Power Commission project.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	90	795	890	1,780	3,820	3,520	4,220	4,260	7,680	15,700	4,790	2,520
2	788	884	1,140	1,790	3,650	3,520	4,450	4,470	6,500	15,500	4,570	2,530
3	869	712	2,090	1,740	3,590	3,520	4,130	4,490	6,290	15,000	3,770	2,510
4	879	874	1,740	1,750	3,590	3,500	4,350	4,670	6,900	13,700	3,630	2,620
5	1,130	671	3,400	1,790	3,580	3,500	4,730	4,710	7,260	13,700	3,610	2,600
6	1,010	692	15,000	1,800	3,560	3,480	4,370	4,390	6,940	11,900	3,550	2,510
7	944	1,050	3,490	1,770	3,540	3,470	5,440	4,510	7,400	11,000	3,570	2,520
8	807	656	1,650	1,890	3,520	3,470	4,580	4,850	8,780	9,640	3,560	2,580
9	766	712	1,760	1,780	3,500	3,110	4,270	5,010	9,180	8,870	3,560	2,550
10	1,020	830	1,760	1,630	3,440	2,340	4,130	5,440	9,300	8,030	3,570	2,550
11	922	714	1,750	1,690	3,500	2,510	4,550	4,950	9,500	6,590	3,400	2,600
12	828	869	1,750	1,880	3,520	3,360	4,050	4,670	9,820	6,680	3,070	2,580
13	876	714	1,720	1,820	3,500	4,790	3,900	4,670	9,160	6,810	2,840	3,170
14	925	862	1,710	1,780	3,500	4,270	4,030	4,830	8,340	8,030	2,900	3,160
15	865	733	1,430	1,850	3,520	3,800	4,310	4,790	9,040	7,200	2,900	3,180
16	833	865	1,490	1,780	3,520	6,920	4,300	5,120	9,770	8,310	2,670	3,260
17	975	835	1,560	1,890	3,520	4,930	4,220	5,210	10,500	7,380	2,760	3,320
18	1,020	699	1,320	1,720	3,520	4,420	4,770	5,420	11,200	5,990	2,900	3,440
19	1,040	848	1,480	1,890	3,500	3,990	5,150	5,570	12,100	5,480	2,660	3,300
20	948	868	1,710	1,840	3,500	3,890	4,760	5,640	10,300	5,510	2,720	3,140
21	656	972	1,220	2,110	3,480	3,880	4,770	5,730	11,500	5,570	2,730	3,070
22	82	840	1,380	3,590	3,500	3,950	5,220	7,360	12,100	5,360	2,570	3,010
23	492	887	1,470	2,510	3,480	4,010	4,720	14,000	12,000	6,110	2,530	2,990
24	817	606	1,140	2,170	3,520	4,150	5,570	14,500	12,400	5,590	2,520	2,990
25	689	769	918	3,270	3,580	3,990	4,980	14,200	13,000	5,250	2,520	3,110
26	801	867	1,170	2,710	3,560	4,090	4,830	13,400	13,200	5,470	2,570	3,110
27	782	865	1,300	2,400	3,520	3,890	4,690	13,000	13,400	5,190	2,600	2,930
28	801	975	1,480	2,640	3,520	3,990	4,900	12,000	14,100	4,860	2,550	2,750
29	779	1,740	1,410	2,730	- - - - -	4,230	4,610	10,500	14,100	5,060	2,580	2,720
30	715	1,620	1,810	3,780	- - - - -	4,050	4,270	10,300	14,500	5,140	2,550	2,850
31	741	- - - - -	1,770	4,670	- - - - -	4,220	- - - - -	9,280	- - - - -	5,010	2,520	- - - - -
Total	24,890	26,024	63,908	68,440	99,050	120,760	137,270	221,940	306,260	249,630	95,240	86,170
Mean	803	867	2,062	2,208	3,538	3,895	4,576	7,159	10,210	8,053	3,072	2,872
Max	1,130	1,740	15,000	4,670	3,820	6,920	5,570	14,500	14,500	15,700	4,790	3,440
Min	82	606	890	1,630	3,440	2,340	3,900	4,260	6,290	4,860	2,520	2,510
Ac-ft	49,370	51,620	126,800	135,700	196,500	239,500	272,300	440,200	607,500	495,100	189,900	170,900

Cal yr 1966: Total **618,998** Mean **1,696** Max **15,000** Min **24** Ac-ft **1,228,000**
Wtr yr 1967: Total **1,499,582** Mean **4,108** Max **15,700** Min **82** Ac-ft **2,974,000**

11-2495. MADERA CANAL AT FRIANT, CALIF.
(formerly published as Friant-Madera Canal at Friant)

LOCATION.--Lat 37°00'10", long 119°42'20", in NW¼SW¼ sec.5, T.11 S., R.21 E., at Friant Dam 0.9 mile northeast of Friant.

RECORDS AVAILABLE.--October 1943 to September 1967. October 1954 to September 1966 published as Friant-Madera Canal at Friant.

GAGE.--Discharge computed on basis of valve openings in dam and head on valves. Prior to Oct. 1, 1948, graphic water-stage recorder at several sites at various datums. Oct. 1, 1948, to Sept. 30, 1949, graphic water-stage recorder at site 8.8 miles downstream.

AVERAGE DISCHARGE.--24 years, 262 cfs (189,700 acre-ft per year).

EXTREMES.--1943-67: Maximum daily discharge, 1,322 cfs June 27, 1964; no flow for several months in each year.

REMARKS.--Canal diverts from Millerton Lake (see sta. no. 2501) at right end of Friant Dam for irrigation between San Joaquin and Fresno Rivers.

COOPERATION.--Records furnished by Bureau of Reclamation and reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1				0	71	303	224	1,027	1,163	1,269	1,275	1,033
2				0	201	233	197	1,096	1,140	1,269	1,276	1,053
3				0	271	284	193	1,110	1,126	1,265	1,273	1,032
4				0	269	285	176	1,113	1,146	1,261	1,273	980
5				0	267	286	131	1,104	1,153	1,267	1,246	948
6				0	265	287	113	1,132	1,140	1,266	1,272	940
7				0	264	287	200	1,144	1,129	1,267	1,268	967
8				0	263	351	249	1,154	1,121	1,264	1,275	978
9				0	263	387	250	1,187	1,000	1,263	1,276	931
10				0	320	387	251	1,194	814	1,258	1,271	902
11				0	351	360	251	1,197	706	1,269	1,258	839
12				0	372	282	251	1,191	642	1,273	1,241	766
13				0	402	182	251	1,177	709	1,273	1,230	746
14				0	251	115	251	1,162	789	1,274	1,236	707
15				0	163	100	250	1,147	813	1,269	1,243	684
16				0	163	80	250	1,161	843	1,271	1,240	679
17				0	193	55	250	1,190	909	1,276	1,244	675
18				0	217	47	250	1,189	998	1,278	1,244	642
19				0	217	47	216	1,241	1,041	1,279	1,237	622
20				167	256	75	197	1,259	1,193	1,278	1,244	613
21				301	313	110	196	1,267	1,279	1,279	1,245	614
22				492	340	207	196	1,261	1,275	1,279	1,263	617
23				552	352	255	195	1,263	1,269	1,279	1,263	573
24				463	367	256	195	1,272	1,270	1,279	1,260	546
25				451	363	162	195	1,273	1,270	1,273	1,251	543
26				453	369	110	194	1,271	1,263	1,277	1,192	540
27				455	369	131	193	1,270	1,264	1,277	1,157	527
28				456	370	193	364	1,267	1,266	1,275	1,148	517
29				457	---	256	316	1,227	1,266	1,274	1,119	514
30				204	---	274	903	1,203	1,266	1,274	1,100	510
31				71	---	274	---	1,196	---	1,273	1,091	---
Total	0	0	0	4,527	7,996	6,721	7,853	36,945	32,267	39,433	38,321	22,293
Mean	0	0	0	146	282	217	262	1,192	1,076	1,272	1,233	743
Max	0	0	0	552	402	387	903	1,273	1,279	1,279	1,278	1,083
Min	0	0	0	0	71	47	113	1,027	642	1,253	1,091	510
Ac-ft	0	0	0	8,979	15,662	13,331	15,502	73,280	64,002	78,225	75,911	44,219

Cal yr 1966: Total 107,126 Mean 293 Max 1,273 Min 0 Ac-ft 212,485
Wtr yr 1967: Total 196,161 Mean 537 Max 1,279 Min 0 Ac-ft 389,010

SAN JOAQUIN RIVER BASIN

11-2500. FRIANT-KERN CANAL AT FRIANT, CALIF.

LOCATION.--Lat 36°59'53", long 119°42'11", in SE¼SW¼ sec.5, T.11 S., R.21 E., at Friant Dam 0.9 mile northeast of Friant.

RECORDS AVAILABLE.--March 1949 to September 1967.

GAGE.--Discharge computed on basis of valve openings in dam and head on valves. Prior to July 8, 1949, staff gages at various sites and datums. July 8 to Sept. 30, 1949, graphic water-stage recorder at site 0.25 mile downstream.

AVERAGE DISCHARGE.--18 years, 1,266 cfs (916,500 acre-ft per year).

EXTREMES.--1949-67: Maximum daily discharge, 4,564 cfs Apr. 17, 1962; no flow for several months in most years.

REMARKS.--Canal diverts from Millerton Lake (see sta. no. 2501) at left end of Friant Dam for irrigation in upper San Joaquin Valley.

COOPERATION.--Records furnished by Bureau of Reclamation and reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	693	525		0	2,346	1,437	2,821	301	1,416	3,193	4,360	4,352
2	686	513		0	2,451	1,443	2,756	280	1,249	3,287	4,347	4,356
3	716	503		0	2,546	1,427	3,424	277	1,145	3,281	4,351	4,354
4	751	465		0	2,604	1,485	3,661	275	1,264	3,270	4,292	4,353
5	750	442		0	2,532	1,603	3,754	272	1,237	3,338	4,233	4,353
6	721	476		0	2,839	1,705	3,626	269	1,106	3,281	4,304	4,346
7	667	477		0	3,138	1,817	3,426	313	1,091	3,194	4,348	4,349
8	604	352		0	3,267	1,927	3,212	356	1,097	3,215	4,344	4,353
9	617	252		0	3,383	1,954	3,264	404	1,106	3,280	4,351	4,352
10	644	254		0	3,455	1,927	3,298	467	1,527	3,347	4,343	4,354
11	640	256		0	3,083	1,905	2,611	462	1,752	3,579	4,345	4,349
12	603	253		121	2,796	2,108	2,618	469	1,987	3,868	4,341	4,351
13	605	260		182	2,639	2,329	2,451	472	2,050	4,162	4,348	4,356
14	577	175		61	2,286	2,239	1,639	606	2,235	4,249	4,342	4,354
15	552	85		0	2,002	1,977	1,337	761	2,551	4,239	4,343	4,263
16	555	71		145	3,734	2,117	1,266	860	2,562	4,250	4,339	4,114
17	558	150		249	3,354	3,243	683	1,015	2,555	4,287	4,338	4,187
18	541	203		250	3,228	3,819	668	1,146	2,811	4,334	4,334	4,256
19	528	205		251	3,139	3,714	517	1,191	3,056	4,354	4,333	4,119
20	532	182		219	2,689	3,723	433	1,167	3,455	4,300	4,349	3,912
21	516	46		62	2,643	3,530	409	1,357	3,567	4,163	4,352	3,561
22	498	0		0	2,738	3,532	382	1,514	3,703	4,209	4,356	3,449
23	495	0		42	2,766	3,056	359	1,631	3,337	4,486	4,359	3,334
24	495	0		32	2,669	2,511	358	1,882	2,764	4,506	4,352	3,409
25	497	0		6	2,762	2,517	325	1,938	3,009	4,465	4,346	3,499
26	508	0		100	2,249	2,541	300	1,780	3,203	4,462	4,326	3,595
27	517	0		258	1,803	2,589	317	1,633	3,296	4,459	4,342	3,702
28	519	5		977	1,911	2,658	331	1,632	3,376	4,351	4,355	3,690
29	521	42		1,125	---	2,664	329	1,643	3,314	4,104	4,351	3,553
30	531	0		1,558	---	2,551	326	1,589	3,231	4,223	4,353	3,434
31	540	---		2,223	---	2,812	---	1,532	---	4,373	4,353	---
Total	18,177	6,197	0	7,861	77,052	74,860	50,906	29,494	70,052	122,109	134,530	121,009
Mean	586	207	0	254	2,752	2,415	1,697	951	2,335	3,939	4,340	4,034
Max	751	525	0	2,223	3,734	3,819	3,754	1,938	3,703	4,506	4,360	4,356
Min	495	0	0	0	1,903	1,427	300	269	1,091	3,193	4,233	3,334
Ac-ft	36,098	12,292	0	15,592	152,833	148,485	100,945	58,501	138,948	242,203	266,840	240,021
Cal yr 1966: Total	500,367			Mean 1,371	Max 3,526	Min 0	Ac-ft 992,456					
Wtr yr 1967: Total	712,247			Mean 1,951	Max 4,506	Min 0	Ac-ft 1,412,758					

11-2501. MILLERTON LAKE AT FRIANT, CALIF.

LOCATION.--Lat 37°00'00", long 119°42'10", in SW¼ sec.5, T.11 S., R.21 E., near center of Friant Dam on San Joaquin River, immediately upstream from Cottonwood Creek, and 0.9 mile northeast of Friant.

DRAINAGE AREA.--1,637 sq mi.

RECORDS AVAILABLE.--October 1941 to September 1967. Month-end contents only for some periods, published in WSP 1315-A.

GAGE.--Graphic water-stage recorder. Datum of gage is at mean sea level (levels by Bureau of Reclamation). Prior to May 29, 1944, staff gages on left bank at same datum.

EXTREMES.--Maximum contents during year, 524,100 acre-ft Apr. 11 (elevation, 578.72 ft); minimum, 160,000 acre-ft Oct. 2 (elevation, 479.29 ft).

1941-67: Maximum contents, 528,200 acre-ft June 20, 1963 (elevation, 579.56 ft); minimum since lake first filled, 133,700 acre-ft Nov. 3, 1959 (elevation, 467.84 ft).

REMARKS.--Reservoir is formed by gravity-type concrete dam with spillway near center, completed in December 1942. Control valves installed in February 1944, and spillway gates installed in November 1947. Usable capacity, 503,200 acre-ft between elevations 375.4 (invert of river outlet) and 578.0 ft (top of drum-type spillway gates) above mean sea level. Not available for release, 17,400 acre-ft. Millerton Lake is one of the storage units in Central Valley project. Records including extremes represent total contents at 2400 hours.

COOPERATION.--Records furnished by Bureau of Reclamation.

CAPACITY TABLE (ELEVATION, IN FEET, AND CONTENTS, IN ACRE-FT)

400	38,400	500	215,600
420	57,000	520	279,400
440	83,300	540	353,000
460	117,500	560	436,500
480	161,700	580	530,400

Contents, in thousands of acre-feet, at 2400 hours, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	160.1	168.4	204.1	338.0	432.9	412.9	494.8	458.6	308.5	410.9	513.5	349.9
2	160.0	168.9	205.6	341.3	425.0	416.2	498.1	449.6	301.4	429.4	511.6	344.2
3	160.1	169.0	210.7	344.6	416.8	419.5	499.4	440.7	294.2	446.4	507.7	338.4
4	160.2	169.7	214.1	348.0	409.1	422.7	501.4	432.2	288.0	459.0	503.4	332.9
5	160.6	169.9	221.6	351.5	403.3	425.6	504.6	423.7	282.6	470.4	499.3	327.5
6	160.9	170.2	253.2	354.8	398.9	428.3	506.8	414.5	277.1	477.6	495.0	322.1
7	161.4	171.1	265.8	358.1	395.8	430.7	512.8	405.3	272.6	483.2	490.4	316.7
8	161.5	171.5	269.0	361.8	395.0	432.9	516.3	396.8	270.6	486.3	485.9	311.4
9	161.7	172.4	272.5	365.1	394.7	434.2	518.7	388.4	269.9	489.6	481.2	306.0
10	162.3	173.3	275.9	368.2	394.2	434.1	521.2	381.2	269.6	492.9	476.8	300.6
11	162.6	174.0	279.2	371.4	394.2	434.8	524.1	372.7	270.4	495.3	472.1	295.6
12	162.7	175.1	282.5	374.7	394.8	438.0	522.7	363.4	271.5	498.2	466.7	290.7
13	163.2	175.8	285.9	377.8	395.5	444.2	521.5	354.1	271.9	501.4	460.9	286.8
14	163.5	177.0	289.3	381.1	397.0	448.9	519.7	344.9	270.2	506.6	455.4	283.0
15	163.8	178.1	292.0	384.5	399.4	452.6	519.5	335.3	269.8	510.4	449.8	279.4
16	164.1	179.5	294.8	387.6	398.6	463.7	518.6	326.2	271.1	516.5	443.9	276.1
17	164.7	180.8	297.9	390.6	398.3	468.0	517.9	316.9	274.1	520.5	438.2	273.0
18	165.4	181.6	300.3	393.5	398.4	469.3	520.4	307.7	278.3	521.6	432.6	270.0
19	166.2	182.8	303.3	396.4	398.6	469.8	520.9	298.8	284.6	521.4	426.7	267.0
20	166.8	183.9	306.6	399.3	399.4	470.1	516.8	290.0	286.5	521.4	420.9	264.1
21	166.9	185.7	308.9	402.7	400.4	470.6	513.0	280.9	291.0	521.8	415.2	261.6
22	166.0	187.3	311.5	409.0	401.0	470.9	511.1	274.6	297.5	521.5	409.1	259.1
23	165.7	189.1	314.2	412.8	401.6	472.3	506.5	282.5	304.0	522.1	402.9	257.1
24	166.1	190.1	316.4	416.7	402.3	474.8	505.6	291.3	313.7	521.7	396.6	254.8
25	166.4	191.6	318.1	422.7	403.3	477.2	501.3	299.0	325.4	520.7	390.6	252.7
26	166.6	193.1	320.2	427.0	405.1	479.9	496.2	305.2	337.3	520.1	384.5	250.4
27	167.0	194.5	322.6	430.3	407.4	482.2	490.3	310.9	349.9	519.2	378.7	247.8
28	167.3	196.3	325.4	432.7	409.7	484.5	484.2	314.2	363.2	517.5	372.8	244.9
29	167.7	199.5	328.1	435.4	-----	487.0	476.3	314.6	377.2	516.9	367.1	242.1
30	167.8	202.7	331.4	440.3	-----	489.6	467.8	314.8	392.1	516.3	361.2	239.5
31	168.0	-----	334.7	439.7	-----	492.2	-----	313.1	-----	515.0	355.5	-----
(†)	482.54	495.50	535.29	560.72	553.84	572.12	566.92	529.50	549.68	576.88	540.64	507.86
(‡)	+6,500	+34,700	+132,000	+105,000	=30,000	+82,500	=23,800	-154,700	+79,000	+122,900	-159,500	+116,000
(††)	1,020	530	210	400	430	1,070	1,210	1,810	2,120	4,080	3,620	1,930
Max	168.0	202.7	334.7	440.3	432.9	492.2	524.1	458.6	392.1	522.1	513.5	349.9
Min	160.0	163.4	204.1	338.0	394.2	412.9	467.8	274.6	269.6	410.9	355.5	239.5

Calendar year 1966..... ‡ -30,000

Max 480.7

Min 160.0

Water year 1966-67..... ‡ +78,000

Max 524.1

Min 160.0

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-feet.

†† Evaporation, in acre-feet.

Note.--Survey of gage on Apr. 14 found error in gage of 0.12 ft. Gages corrected on this date. Computed contents prior to Apr. 14 not revised.

SAN JOAQUIN RIVER BASIN

11-2510. SAN JOAQUIN RIVER BELOW FRIANT, CALIF.

LOCATION.--Lat 36°59'04", long 119°43'24", in SW $\frac{1}{4}$ sec.7, T.11 S., R.21 E., on left bank 0.5 mile west of Friant, 1.5 miles downstream from Cottonwood Creek, 2 miles downstream from Friant Dam, and at mile 268.1.

DRAINAGE AREA.--1,676 sq mi (revised).

RECORDS AVAILABLE.--October 1907 to September 1967. Published as "near Pollasky" October 1907 to December 1908 and as "near Friant" January 1909 to September 1938. Monthly discharge only for October 1907 to November 1908, published in WSP 1315-A.

GAGE.--Graphic water-stage recorder. Datum of gage is 294.00 ft above mean sea level (levels by Bureau of Reclamation). Oct. 18, 1907, to Nov. 9, 1913, staff gage at site 4.5 miles upstream at different datum. Nov. 10, 1913, to Sept. 30, 1938, graphic water-stage recorder at site 2.5 miles upstream at different datum.

AVERAGE DISCHARGE.--60 years, 2,333 cfs (1,689,000 acre-ft per year), including diversions to Madera Canal, 1944-67, Friant-Kern Canal, 1949-67, and adjusted for change in contents and evaporation from Millerton Lake 1941-67.

EXTREMES.--Maximum discharge during year, 8,230 cfs May 23 (gage height, 9.66 ft); minimum daily, 29 cfs Dec. 16-21.

1907-41 (prior to regulation by Millerton Lake): Maximum discharge, 77,200 cfs Dec. 11, 1937 (gage height, 23.8 ft, site and datum then in use); minimum, 38 cfs (regulated) July 29, 1940.

1941-67: Maximum discharge, 11,200 cfs Jan. 23, 1943 (partially regulated, prior to installation of outlet gate), and 8,230 cfs May 23, 1967 (fully regulated) (gage height, 9.66 ft); minimum, 5.5 cfs Oct. 20, 1941.

REMARKS.--Records good. Flow regulated by Millerton Lake beginning in 1944 (see sta. no. 2501) and by other reservoirs described in REMARKS for San Joaquin River below Kerckhoff powerhouse. Diversion for irrigation through Madera and Friant-Kern Canals (see sta. nos. 2495 and 2500).

COOPERATION.--Nine discharge measurements furnished by Bureau of Reclamation.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	95	86	49	48	5,130	37	73	8,170	8,100	2,700	144	122
2	95	86	52	48	5,090	37	64	8,160	8,100	2,570	116	122
3	95	87	51	49	5,070	37	53	8,100	8,100	2,740	112	122
4	95	87	51	49	4,750	37	61	8,140	8,120	3,740	133	122
5	93	87	53	49	3,750	36	101	8,170	8,140	4,220	131	122
6	93	87	61	49	2,780	36	68	8,140	8,100	4,220	131	120
7	91	89	49	49	1,770	43	150	8,160	8,120	4,230	129	120
8	91	82	35	49	502	44	112	8,120	8,170	4,020	129	120
9	91	80	31	49	45	43	91	8,100	7,990	3,240	129	120
10	91	80	30	49	44	53	93	8,080	7,630	2,040	129	120
11	91	80	30	49	43	69	1,290	8,120	7,330	780	131	120
12	91	80	30	49	42	89	2,700	8,140	7,170	198	135	118
13	89	80	30	49	66	74	2,700	8,120	6,850	183	133	120
14	93	73	30	49	152	71	3,350	8,120	6,660	188	133	120
15	99	68	30	51	152	55	3,500	8,160	6,330	188	133	120
16	99	69	29	51	89	74	3,340	8,120	6,120	188	131	122
17	99	69	29	52	33	68	4,070	8,120	5,800	188	131	122
18	99	69	29	51	37	55	4,330	8,140	5,660	199	129	119
19	99	61	29	51	36	52	6,380	8,120	5,310	178	131	103
20	99	52	29	52	36	51	8,010	8,160	5,130	164	131	103
21	93	51	29	53	36	48	7,980	8,160	4,790	204	129	103
22	86	49	40	64	36	46	7,630	8,160	4,640	181	126	103
23	86	43	43	64	36	46	7,310	8,160	4,390	230	126	103
24	86	43	49	66	36	46	7,650	8,120	3,740	241	125	101
25	86	48	49	71	68	45	7,810	8,100	3,180	186	126	101
26	84	43	49	44	49	44	7,980	8,100	3,030	191	126	101
27	84	48	49	41	42	44	8,070	8,100	3,050	188	124	101
28	84	43	49	40	38	45	8,080	8,100	3,030	171	124	97
29	84	43	49	53	-----	53	8,120	8,120	3,050	155	124	91
30	84	43	49	116	-----	46	8,100	8,100	3,040	155	124	91
31	84	-----	49	3,290	-----	74	-----	8,100	-----	155	124	-----
Total	2,829	2,036	1,266	4,894	29,963	1,598	120,371	251,380	178,920	38,226	3,980	3,363
Mean	91.3	67.9	40.8	158	1,070	51.5	4,029	8,128	5,961	1,233	128	112
Max	99	89	61	3,290	5,130	89	8,120	8,170	8,170	4,230	144	122
Min	84	48	29	40	36	36	53	8,080	3,030	155	112	91
Ac-ft	5,610	4,040	2,510	9,710	59,430	3,170	239,700	499,800	354,700	75,920	7,890	6,680
Mean†	80.1	366	2,191	2,272	3,571	4,043	5,606	7,785	10,730	8,509	3,165	2,971
Ac-ft†	49,230	51,560	134,700	139,700	198,300	248,600	333,600	478,700	638,700	523,200	194,600	176,900

Cal yr 1966: Total	32,378	Mean	88.7	Max	159	Min	25	Ac-ft	64,220	Mean †	1,743	Ac-ft †	1,262,000
Wtr yr 1967: Total	639,831	Mean	1,753	Max	8,170	Min	29	Ac-ft	1,269,000	Mean †	4,376	Ac-ft †	3,168,000

† Adjusted for change in contents and evaporation from Millerton Lake and for diversion to Madera and Friant-Kern Canals.

SAN JOAQUIN RIVER BASIN

647

11-2533.1. CANTUA CREEK NEAR CANTUA CREEK, CALIF.

LOCATION.--Lat 36°24'00", long 120°25'55", in SE¼ sec.34, T.7 S., R.14 E., on left bank 9.2 miles southwest of town of Cantua Creek and 19 miles north of Coalinga.

DRAINAGE AREA.--46.4 sq mi.

RECORDS AVAILABLE.--Water years 1958-66 (annual maximum), October 1966 to September 1967.

GAGE.--Graphic water-stage recorder and crest-stage gage. Altitude of gage is 680 ft (from topographic map). Prior to Sept. 16, 1966, at datum 2.00 ft lower.

EXTREMES.--Maximum discharge during year, 651 cfs Dec. 6 (gage height, 4.57 ft), from rating curve extended above 40 cfs as explained below; no flow for many days.

1958-67: Maximum discharge, 751 cfs Apr. 2, 1958 (gage height, 5.34 ft, from floodmarks), from rating curve extended above 40 cfs on basis of slope-area measurements at gage heights 2.67, 4.57, and 5.34 ft.

REMARKS.--Records good. Some small dams for stock use above station.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	0.40	6.7	1.8	9.4	12	5.3	1.8	0.30	0
2			0	.30	5.6	1.7	8.4	11	5.3	1.5	.30	0
3			.40	.30	5.0	1.7	9.1	11	5.0	1.5	.30	0
4			.10	.30	4.2	2.2	9.4	11	4.2	1.3	.30	0
5			61	.40	3.9	2.0	8.7	11	4.6	1.3	.30	0
6			184	.30	3.6	1.8	8.7	11	4.6	1.3	.20	0
7			21	.30	3.2	1.7	22	10	4.2	1.3	.20	0
8			7.4	.30	3.0	1.3	14	9.4	3.9	1.3	.30	0
9			3.0	.30	2.7	.70	11	9.7	3.9	1.2	.30	0
10			2.2	.30	3.0	.60	10	10	3.6	.60	.30	0
11			1.7	.30	2.7	6.6	12	9.7	3.6	.40	.20	0
12			1.3	.30	2.5	4.5	11	9.1	3.2	.60	.20	0
13			1.2	.20	2.2	3.8	10	9.4	3.2	.80	.20	0
14			.90	.20	2.2	2.0	9.7	8.1	3.2	.70	.10	0
15			.80	.20	2.2	1.4	10	7.4	3.0	.70	0	0
16			.70	.20	2.2	4.3	9.7	7.0	3.2	.70	0	0
17			.70	.20	2.2	2.1	9.7	7.0	3.0	.70	0	0
18			.60	.20	2.0	1.6	15	6.4	2.7	.70	0	0
19			.40	.20	2.0	1.3	14	6.4	2.7	.60	0	0
20			.40	.20	2.0	1.1	13	6.4	2.7	.40	0	0
21			.40	.30	1.8	1.1	15	6.4	2.5	.40	0	2.1
22			.40	1.1	1.8	9.7	16	5.6	2.2	.40	0	.20
23			.40	2.7	1.8	9.4	15	5.0	1.3	.40	0	.10
24			.40	56	1.8	8.7	17	5.0	1.2	.40	0	.10
25			.40	18	3.0	8.1	16	5.0	1.2	.40	0	.10
26			.40	8.7	2.2	8.1	14	5.3	1.2	.40	0	.10
27			.40	7.4	1.8	7.8	14	5.0	1.2	.40	0	.10
28			.40	6.0	1.8	7.0	14	5.0	1.7	.40	0	.10
29			.40	6.0	- - - -	7.4	14	5.3	2.2	.40	0	.10
30			.40	13	- - - -	7.0	13	5.0	2.0	.40	0	.10
31		- - - -	.40	10	- - - -	9.7	- - - -	5.3	- - - -	.30	0	- - - -
Total	0	0	292.20	144.50	79.1	337.00	369.8	239.9	91.8	23.70	3.50	3.10
Mean	0	0	9.43	4.66	2.82	10.9	12.3	7.74	3.06	0.76	0.11	0.10
Max	0	0	184	56	6.7	4.5	22	12	5.3	1.8	0.30	2.1
Min	0	0	0	0.20	1.8	0.60	9.1	5.0	1.2	0.30	0	0
Ac-ft	0	0	580	287	157	669	733	476	182	47	6.9	6.1

Cal yr 1966: Total - Mean - Max - Min - Ac-ft -
Wtr yr 1967: Total 1584.60 Mean 4.34 Max 184 Min 0 Ac-ft 3140

Peak discharge (base, 50 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-06	0800	4.57	651	3-12	2200	3.13	100
1-24	1000	3.15	104	3-16	1300	3.04	88

SAN JOAQUIN RIVER BASIN

11-2555. PANOCHE CREEK BELOW SILVER CREEK, NEAR PANOCHE, CALIF.

LOCATION.--Lat 36°37'08", long 120°40'22", in SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.16, T.15 S., R.12 E., on right bank 1.1 miles downstream from Silver Creek, 9 miles east of Panoche, and 18 miles southwest of Mendota.

DRAINAGE AREA.--293 sq mi.

RECORDS AVAILABLE.--October 1949 to September 1953, October 1958 to September 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is 558.26 ft above mean sea level, datum of 1929.

AVERAGE DISCHARGE.--13 years, 1.83 cfs (1,320 acre-ft per year); median of yearly mean discharges, 0.7 cfs (510 acre-ft per year).

EXTREMES.--Maximum discharge during year, 328 cfs Jan. 24 (gage height, 4.57 ft); no flow for several months. 1949-53, 1958-67: Maximum discharge, 3,160 cfs Jan. 12, 1952 (gage height, 7.05 ft, from floodmarks), from rating curve extended above 870 cfs on basis of slope-area measurements at gage heights 6.25 and 7.01 ft; no flow for several months in each year.

Flood of Apr. 2, 1958, reached a stage of 7.01 ft (discharge, 5,090 cfs, by slope-area measurement).

REMARKS.--Records fair. Some small dams for stock use above station. Records of suspended-sediment loads for the water year 1967 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	0	5.6	0	3.6	7.2	1.9			
2			0	0	2.9	0	3.6	6.8	1.9			
3			0	0	1.7	0	3.6	6.6	1.9			
4			0	0	1.2	.10	3.8	6.4	1.8			
5			0	0	1.0	.40	3.8	6.4	1.8			
6			77	0	.80	.10	3.8	6.6	1.8			
7			48	0	.80	0	13	6.2	1.8			
8			3.1	0	.80	0	55	5.8	1.6			
9			1.2	0	.60	0	29	5.6	1.2			
10			.80	0	.50	0	14	6.3	1.1			
11			.10	0	.40	.40	7.5	6.0	1.1			
12			0	0	.40	13	7.5	5.8	.80			
13			0	0	.20	48	7.5	5.7	.90			
14			0	0	.20	16	7.5	5.4	.80			
15			0	0	.10	12	7.5	5.0	.50			
16			0	0	.20	6.8	7.0	4.8	.40			
17			0	0	.20	6.6	7.0	4.6	.20			
18			0	0	.20	6.6	7.0	4.4	.20			
19			0	0	.20	6.6	7.0	4.2	.20			
20			0	0	.20	6.6	7.0	4.0	.20			
21			0	0	.10	6.6	7.0	3.8	.20			
22			0	3.5	.10	6.3	7.5	3.6	.10			
23			0	2.5	.20	6.2	8.0	3.4	.10			
24			0	116	.20	5.7	8.5	3.2	.10			
25			0	41	.20	5.2	9.0	3.0	0			
26			0	6.4	.50	4.8	9.4	2.8	0			
27			0	2.5	.20	4.5	8.4	2.6	0			
28			0	1.3	0	4.4	8.1	2.4	0			
29			0	.80	- - - - -	3.9	8.6	2.2	0			
30			0	1.7	- - - - -	3.8	8.0	2.0	0			
31		- - - - -	0	9.6	- - - - -	3.6	- - - - -	2.0	- - - - -			- - - - -
Total	0	0	130.20	185.30	19.70	178.20	287.2	144.8	22.60	0	0	0
Mean	0	0	4.20	5.98	0.70	5.75	9.57	4.67	0.75	0	0	0
Max	0	0	77	116	5.6	48	55	7.2	1.9	0	0	0
Min	0	0	0	0	0	0	3.6	2.0	0	0	0	0
Ac-ft	0	0	258	368	39	353	570	287	45	0	0	0

Cal yr 1966: Total 242.50 Mean 0.66 Max 77 Min 0 Ac-ft 481
Wtr yr 1967: Total 968.00 Mean 2.65 Max 116 Min 0 Ac-ft 1920

Peak discharge (base, 50 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-06	1700	4.15	250	3-13	0600	3.44	73
1-24	1800	4.57	328				

SAN JOAQUIN RIVER BASIN

649

11-2571. MIAMI CREEK NEAR OAKHURST, CALIF.

LOCATION.--Lat 37°23'37", long 119°39'12", in NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.22, T.6 S., R.21 E., on left bank 200 ft downstream from county road bridge, and 4.6 miles north of Oakhurst.

DRAINAGE AREA.--10.6 sq mi.

RECORDS AVAILABLE.--October 1960 to September 1967.

GAGE.--Graphic water-stage recorder. Altitude of gage is 3,500 ft (from topographic map).

AVERAGE DISCHARGE.--7 years, 7.66 cfs (5,550 acre-ft per year).

EXTREMES.--Maximum discharge during year, 553 cfs Dec. 6 (gage height, 7.81 ft); minimum daily, 0.40 cfs Oct. 1, 2, 8.

1960-67: Maximum discharge, 804 cfs (revised) Feb. 1, 1963 (gage height, 9.08 ft); no flow for many days in most years.

REVISIONS.--The maximum discharge for the water year 1963 has been revised to 804 cfs Feb. 1, 1963 (gage height, 9.08 ft), superseding figure published in Surface Water Records of California Vol. 2, 1963.

REMARKS.--No known diversions above station.

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

Discharge, in cubic feet per second, water year October to September

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.40	0.70	3.6	4.8	32	7.9	21	31	36	14	7.4	4.3
2	.40	.70	50	4.8	21	7.4	21	37	34	13	7.4	4.1
3	.50	.60	45	4.6	16	7.9	20	40	33	13	7.4	3.9
4	1.0	.60	10	4.6	15	7.9	27	42	33	12	7.4	3.8
5	1.0	.60	180	4.6	13	7.2	26	42	35	10	7.0	3.8
6	.90	.90	335	4.6	13	7.7	29	43	33	11	7.0	3.3
7	.60	2.8	57	4.4	12	7.4	55	49	31	10	6.5	3.3
8	.40	1.6	23	4.4	11	7.4	35	54	29	10	6.7	3.1
9	.70	1.2	16	4.4	11	7.4	32	54	29	9.8	6.5	3.1
10	.60	1.1	13	4.1	11	7.7	32	69	27	9.3	6.5	3.0
11	.50	1.2	10	4.1	11	13	30	51	26	9.3	6.3	3.0
12	.50	1.0	9.5	4.1	11	37	26	44	26	9.0	5.8	3.1
13	.60	1.0	8.4	4.1	11	36	28	43	24	9.7	5.8	3.0
14	.60	1.0	7.9	4.1	10	26	30	46	23	8.4	5.6	3.0
15	.60	1.0	7.7	3.8	9.8	23	30	49	22	8.7	5.4	2.8
16	.90	8.4	7.0	3.8	9.3	147	27	53	21	8.7	5.2	2.8
17	.80	3.9	6.7	3.8	9.0	62	27	57	17	8.4	5.0	2.8
18	.80	1.9	6.5	3.8	9.0	40	39	59	16	8.4	5.0	3.9
19	.80	1.6	6.0	3.8	8.4	31	32	59	17	8.4	4.6	4.3
20	.80	6.0	5.8	3.9	8.2	28	29	61	18	8.2	4.4	3.8
21	.80	6.0	5.4	11	7.9	26	27	63	17	8.2	4.4	3.6
22	.80	7.2	5.4	14	7.7	27	26	63	16	8.2	4.3	3.6
23	.80	3.8	5.2	8.7	7.7	26	26	62	14	8.2	4.1	3.8
24	.80	2.7	5.2	9.3	7.2	24	29	59	14	8.2	4.1	3.8
25	.70	2.3	5.0	9.3	7.9	22	30	55	15	8.2	4.3	3.9
26	.70	2.0	5.2	9.0	7.7	22	32	51	15	7.9	4.3	3.9
27	.70	1.9	5.0	9.5	7.4	21	36	48	15	7.7	4.3	3.8
28	.80	5.6	5.4	11	7.4	25	33	46	14	8.2	4.3	3.8
29	.70	9.0	5.4	39		26	28	44	14	7.9	4.4	3.8
30	.60	4.6	5.4	66	- - - - -	22	28	41	13	7.9	4.4	3.6
31	.70	- - - - -	5.0	65	- - - - -	22	- - - - -	39	- - - - -	7.7	4.4	- - - - -
Total	21.50	82.90	865.7	336.4	312.6	781.9	891	1554	677	286.6	170.2	105.8
Mean	0.69	2.76	27.9	10.9	11.2	25.2	29.7	50.1	22.6	9.25	5.49	3.53
Max	1.0	9.0	335	66	32	147	55	69	36	14	7.4	4.3
Min	0.40	0.60	3.6	3.8	7.2	7.2	20	31	13	7.7	4.1	2.8
Ac-ft	43	164	1720	667	620	1550	1770	3080	1340	568	338	210.0
Cal yr	: Total	2167.7	Mean	5.94	Max	335	Min	0.20	Ac-ft	4300		
Wtr yr	: Total	6085.6	Mean	16.7	Max	335	Min	0.40	Ac-ft	12070		

SAN JOAQUIN RIVER BASIN

11-2575. FRESNO RIVER NEAR KNOWLES, CALIF.

LOCATION.--Lat 37°14'15", long 119°46'25", in NW $\frac{1}{4}$ sec.15, T.8 S., R.20 E., on left bank at Fresno Crossing, 0.1 mile downstream from Bean Gulch, and 6 miles northeast of Knowles.

DRAINAGE AREA.--133 sq mi.

RECORDS AVAILABLE.--September 1911 to December 1913, November 1915 to September 1967.

GAGE.--Digital water-stage recorder. Datum of gage is 1,086.4 ft above mean sea level (river-profile survey). Prior to June 13, 1930, staff gage 10 ft upstream and June 13, 1930, to Jan. 13, 1931, graphic water-stage recorder at site 40 ft upstream at datum 0.34 ft lower. Jan. 13, 1931, to Oct. 24, 1963, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--52 years (1911-12, 1916-67), 78.2 cfs (56,600 acre-ft per year); median of yearly mean discharges, 61 cfs (44,200 acre-ft per year).

EXTREMES.--Maximum discharge during year, 3,800 cfs Dec. 6 (gage height, 6.62 ft); minimum daily, 0.80 cfs Oct. 1, 2.

1911-13, 1915-67: Maximum discharge, 13,300 cfs Dec. 23, 1955 (gage height, 11.52 ft), from rating curve extended above 2,500 cfs on basis of slope-area measurement of maximum flow; no flow at times "in some years."

REMARKS.--Records good. Diversions for irrigation of 160 acres above station. Diversions into Fresno River basin above station up to 50 cfs at times since 1897 from San Joaquin River basin and up to 60 cfs at times since 1888 from Merced River basin, for irrigation downstream from station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0.80	5.0	38	53	397	96	349	425	255	129	49	12
2	0.80	4.9	68	50	265	95	397	408	245	127	46	9.0
3	1.1	4.8	356	50	220	97	311	405	235	123	50	8.2
4	2.5	4.9	105	49	187	105	463	403	227	117	48	7.8
5	3.3	5.1	741	48	173	94	648	417	240	116	45	7.6
6	3.3	6.0	2,510	48	164	101	437	371	237	114	43	7.0
7	3.1	12	602	44	154	97	1,160	371	228	112	40	7.6
8	3.1	16	208	43	143	98	652	387	216	109	39	8.8
9	3.1	13	135	44	138	101	462	407	210	105	38	9.0
10	3.0	11	104	43	133	100	428	561	205	103	37	9.7
11	3.6	9.7	85	44	132	180	785	450	202	100	38	10
12	3.5	9.5	69	44	129	565	523	365	197	98	36	11
13	3.9	9.6	82	44	127	867	412	332	196	95	34	10
14	4.1	9.7	82	44	126	553	382	322	189	99	32	10
15	4.5	9.6	76	44	116	320	548	324	183	97	32	9.7
16	4.4	18	79	42	109	970	493	332	180	98	29	9.5
17	4.7	63	82	42	105	705	407	339	178	93	28	9.5
18	4.8	25	79	41	102	407	1,270	339	171	89	28	12
19	4.9	17	76	39	101	315	1,210	330	168	86	27	23
20	4.5	33	72	40	98	274	1,030	319	165	85	27	19
21	4.3	59	69	107	93	253	1,020	313	162	81	25	14
22	4.6	54	63	245	86	239	1,070	305	158	79	24	13
23	5.0	44	60	153	85	226	826	295	152	75	24	13
24	5.4	27	57	323	94	217	1,050	312	151	72	23	14
25	5.2	22	57	323	131	205	777	300	147	69	25	14
26	4.9	20	60	186	106	199	668	305	143	64	25	16
27	4.8	18	55	161	102	192	644	294	140	60	25	15
28	4.9	21	46	151	99	223	659	287	137	58	23	13
29	5.2	61	46	287	-----	308	499	275	134	55	21	13
30	5.2	46	57	614	-----	224	443	266	132	54	16	13
31	5.0	-----	53	944	-----	303	-----	263	-----	52	15	-----
TOTAL	121.50	658.8	6,272	4,390	3,915	8,729	20,023	10,822	5,583	2,814	992	348.4
MEAN	3.92	22.0	202	142	140	282	667	349	186	90.8	32.0	11.6
MAX	5.4	63	2,510	944	397	970	1,270	561	255	129	50	23
MIN	.80	4.8	38	39	85	94	311	263	132	52	15	7.0
AC-FT	241	1,310	12,440	8,710	7,770	17,310	39,720	21,470	11,070	5,580	1,970	691

CAL YR 1966: TOTAL 21,449.00 MEAN 58.8 MAX 2,510 MIN 0 AC-FT 42,540
 WAT YR 1967: TOTAL 64,668.70 MEAN 177 MAX 2,510 MIN .80 AC-FT 128,300

Peak discharge (base, 590 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-03	0545	3.22	809	3-16	1730	4.56	1,870
12-06	1115	6.62	3,800	4-07	0745	4.06	1,430
1-24	2100	3.21	822	4-18	2015	4.82	2,130
1-31	0130	4.23	1,570	5-10	1600	3.08	743

11-2577. PICAYUNE CREEK NEAR COARSEGOLD, CALIF.

LOCATION.--Lat 37°13'15", long 119°42'25", in NW¼SW¼ sec.20, T.8 S., R.21 E., at culvert on State Highway 41, 3.0 miles south of Coarsegold.

DRAINAGE AREA.--8.17 sq mi.

RECORDS AVAILABLE.--Water years 1960-64 (revised) (annual maximum), October 1964 to September 1967.

GAGE.--Graphic water-stage recorder, crest-stage gages, and tipping-bucket rain gage. Altitude of gage is 1,860 ft (from topographic map). Sept. 21, 1959, to Sept. 11, 1964, crest-stage gage at same site and datum.

EXTREMES.--Maximum discharge during year, 393 cfs Apr. 18 (gage height, 6.91 ft), from rating curve extended above 70 cfs as explained below; no flow for several months.

1960-67: Maximum discharge, 393 cfs Apr. 18, 1967 (gage height, 6.91 ft), from rating curve extended above 70 cfs on basis of computation of flow through culvert at gage heights 5.84 and 6.91 ft; no flow for several months each year.

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

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	0.10	1.6	1.8	2.3	20	5.3	0.50		
2			20	.10	10	1.6	2.6	1.8	5.1	.40		
3			.10	.10	7.8	1.6	1.7	1.6	4.5	.40		
4			.10	.10	6.5	1.8	2.9	1.5	4.1	.30		
5			12	.10	5.8	1.6	3.8	1.4	4.5	.30		
6			60	.10	5.1	1.5	2.3	1.3	4.5	.20		
7			7.2	.10	4.3	1.3	7.7	1.2	4.3	.20		
8			2.8	.10	3.9	1.3	3.2	1.0	4.1	.10		
9			1.8	.10	3.5	1.3	2.2	1.0	3.7	.10		
10			1.3	.10	4.5	1.2	2.2	2.4	3.5	0		
11			1.0	.10	2.8	8.0	5.6	1.4	3.3	0		
12			.70	.10	2.6	4.1	2.3	10	3.2	0		
13			.50	.10	2.5	5.4	2.1	9.5	3.0	0		
14			.50	.10	2.3	3.9	2.0	9.0	2.8	0		
15			.40	.10	2.1	1.8	2.9	3.5	2.5	0		
16			.40	.10	2.1	5.7	2.5	7.8	2.3	0		
17			.20	.10	2.0	2.7	2.0	7.2	2.0	0		
18			.20	.10	2.0	1.7	18.5	6.5	1.8	0		
19			.20	.10	1.8	1.3	13.6	6.2	1.5	0		
20			.20	.10	1.8	10	11.5	6.0	1.3	0		
21			.10	1.3	1.6	9.2	11.4	5.8	1.3	0		
22			.10	6.3	1.5	8.8	11.3	5.5	1.2	0		
23			.10	2.5	1.5	8.2	5.7	5.3	1.0	0		
24			.10	2.5	1.5	7.5	9.4	4.9	.80	0		
25			.10	20	5.1	7.0	4.5	4.7	.80	0		
26			.40	7.5	3.2	6.8	3.4	4.3	.70	0		
27			.20	5.1	2.3	6.2	30	4.1	.70	0		
28			.20	3.9	2.0	9.9	2.8	4.3	.60	0		
29			.20	8.5	- - - - -	1.4	2.3	4.5	.60	0		
30			.20	2.8	- - - - -	9.5	2.1	4.7	.50	0		
31		- - - - -	.20	4.1	- - - - -	2.6	- - - - -	5.1	- - - - -	0		- - - - -
Total	0	0	91.70	151.10	103.1	412.1	1,508	2,899	75.50	2.50	0	0
Mean	0	0	2.96	4.87	3.86	13.3	50.3	9.35	2.52	0.08	0	0
Max	0	0	60	41	1.5	5.7	18.5	2.4	5.3	0.50	0	0
Min	0	0	0	0.10	1.5	1.2	1.7	4.1	0.50	0	0	0
Ac-ft	0	0	182	300	21.4	81.7	2,990	57.5	1.50	5.0	0	0
(†)	0	3.7	5.7	3.9	.1	6.3	9.1	1.1	.2	0	0	.4

Cal yr 1966: Total 363.10 Mean 1.01 Max 60 Min 0 Ac-ft 730
Wtr yr 1967: Total 2,633.90 Mean 7.23 Max 185 Min 0 Ac-ft 5,230

Peak discharge (base, 40 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-06	1600	4.35	158	4-07	1300	3.71	104
1-24	1600	3.03	56	4-11	0100	3.45	85
1-30	2100	3.54	94	4-15	1800	2.84	45
3-12	2200	3.60	96	4-18	1900	6.91	393
3-16	1200	3.85	116	4-24	0700	4.37	157
3-31	2300	2.81	43	5-10	1100	2.85	45

† Precipitation, in inches.

SAN JOAQUIN RIVER BASIN

11-2580. FRESNO RIVER NEAR DAULTON, CALIF.

LOCATION.--Lat 37°05'50", long 119°53'20", in NW $\frac{1}{4}$ sec.3, T.10 S., R.19 E., on left bank 0.5 mile downstream from Willow Creek and 5.3 miles southeast of Daulton.

DRAINAGE AREA.--258 sq mi.

RECORDS AVAILABLE.--October 1941 to September 1967.

GAGE.--Digital water-stage recorder. Datum of gage is 382.4 ft above mean sea level (levels by Corps of Engineers). October 1941 to Sept. 27, 1946, at site 300 ft downstream and Sept. 27, 1946, to Sept. 28, 1949, at present site, at datum 3.37 ft higher. Sept. 28, 1949, to Mar. 19, 1963, at datum 1.00 ft higher. Prior to Sept. 27, 1963, graphic water-stage recorder at different sites and datums.

AVERAGE DISCHARGE.--26 years, 101 cfs (73,120 acre-ft per year); median of yearly mean discharges, 76 cfs (55,000 acre-ft per year).

EXTREMES.--Maximum discharge during year, 5,590 cfs Apr. 18 (gage height, 8.26 ft); no flow Oct. 1-13. 1941-67: Maximum discharge, 17,500 cfs Dec. 23, 1955 (gage height, 12.64 ft, present datum), from rating curve extended above 6,400 cfs; no flow at times in most years.

REMARKS.--Records good. No diversion for irrigation between this station and station near Knowles. Some regulation at low flow by mining operations above station. See REMARKS for station near Knowles.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0	4.9	71	55	648	113	615	729	305	129	60	17
2	0	5.0	130	55	420	110	605	667	287	125	52	9.3
3	0	5.1	600	55	330	110	503	633	273	122	50	7.1
4	0	5.0	250	55	274	113	537	617	266	119	48	5.0
5	0	5.1	1,000	54	250	109	1,190	611	281	118	47	5.1
6	0	6.3	4,030	53	236	105	743	549	284	117	45	4.8
7	0	9.6	1,190	51	218	103	1,840	507	267	111	40	4.1
8	0	11	301	49	206	102	1,230	499	254	108	36	4.1
9	0	13	185	49	191	100	814	497	245	105	37	4.3
10	0	12	139	49	182	100	686	714	235	103	42	4.6
11	0.	12	114	51	173	122	1,490	647	230	100	37	5.1
12	0	12	95	51	164	503	1,030	491	226	92	31	6.1
13	0	11	93	51	158	1,170	734	440	220	93	29	7.4
14	2.3	11	95	51	152	986	628	416	216	97	30	7.4
15	1.4	11	86	49	142	503	815	409	208	97	31	7.4
16	2.1	13	84	49	136	1,000	890	415	201	100	29	7.4
17	2.5	36	86	49	131	1,140	651	419	197	96	27	6.7
18	3.2	36	82	49	126	620	1,950	409	191	88	21	7.0
19	3.3	23	78	48	126	464	2,900	392	182	86	20	8.2
20	4.1	25	74	48	118	391	2,240	381	179	83	21	11
21	4.1	48	74	76	111	346	2,180	368	175	82	20	13
22	4.2	55	70	232	109	331	2,540	357	172	84	20	12
23	4.8	56	66	191	106	313	1,610	341	167	84	18	11
24	4.8	41	64	222	106	292	2,240	346	161	81	16	11
25	5.1	30	62	535	152	270	1,540	345	154	70	16	11
26	5.7	27	62	285	158	258	1,220	341	150	66	18	11
27	5.6	25	64	229	128	245	1,100	332	145	65	17	11
28	5.1	28	57	206	118	240	1,130	318	141	61	17	10
29	5.1	41	51	278	-----	426	895	315	139	61	16	11
30	5.1	63	55	616	-----	295	785	310	137	62	15	10
31	5.2	-----	57	1,290	-----	458	-----	298	-----	63	13	-----
TOTAL	73.7	681.0	9,465	5,181	5,369	11,438	37,331	14,113	6,288	2,868	919	250.1
MEAN	2.38	22.7	305	167	192	369	1,244	455	210	92.5	29.6	8.34
MAX	5.7	63	4,030	1,290	648	1,170	2,900	729	305	129	60	17
MIN	0	4.9	51	48	106	100	503	298	137	61	13	4.1
AC-FT	146	1,350	18,770	10,280	10,650	22,690	74,040	27,990	12,470	5,690	1,820	496

CAL YR 1966: TOTAL 26,913.20 MEAN 73.7 MAX 4,030 MIN 0 AC-FT 53,380
 WAT YR 1967: TOTAL 93,976.80 MEAN 257 MAX 4,030 MIN 0 AC-FT 186,400

Peak discharge (base, 600 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-03	----	----	1,000	3-16	2215	5.96	2,270
12-06	1530	8.11	4,850	4-07	1630	5.90	2,210
1-25	0200	4.21	1,070	4-18	2400	8.26	5,590
1-31	0515	5.76	1,880	5-10	1900	4.34	990

SAN JOAQUIN RIVER BASIN

653

11-2588. EAST FORK CHOWCHILLA RIVER NEAR AHWAHNEE, CALIF.

LOCATION.--Lat 37°20'10", long 119°48'55", in NW¼SW¼ sec.8, T.7 S., R.20 E., on right bank 1.1 miles upstream from mouth and 5.5 miles west of Ahwahnee.

DRAINAGE AREA.--57.8 sq mi.

RECORDS AVAILABLE.--October 1957 to September 1967 (discontinued).

GAGE.--Graphic water-stage recorder. Altitude of gage is 980 ft (from topographic map).

AVERAGE DISCHARGE.--10 years, 31.5 cfs (22,810 acre-ft per year).

EXTREMES.--Maximum discharge during year, 2,660 cfs Dec. 6 (gage height, 9.15 ft); no flow for several days.
1957-67: Maximum discharge, 3,710 cfs Jan. 31, 1963 (gage height, 10.34 ft); no flow for many days in 1959-67.

REMARKS.--No known diversions above station.

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

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0.70	6.9	11	173	25	154	200	97	26	7.2	2.3
2	0	.70	96	10	126	24	183	203	93	24	6.7	2.3
3	0	.80	149	10	101	24	148	205	88	24	6.7	2.6
4	0	.80	32	10	87	27	256	200	85	22	6.3	2.8
5	0	.70	476	10	74	25	257	198	92	21	6.3	2.6
6	0	1.1	1,310	11	62	24	203	188	88	24	5.9	2.6
7	0	3.5	231	10	53	24	598	195	83	21	6.3	2.6
8	0	3.5	98	11	46	23	266	205	80	20	5.9	2.6
9	0	2.2	47	11	44	23	210	213	77	20	5.9	2.6
10	0	1.6	19	11	40	20	207	283	76	19	5.4	2.6
11	0	1.9	16	10	38	84	311	205	72	19	5.4	2.6
12	0	1.9	16	10	37	342	223	186	74	19	5.1	2.6
13	0	1.9	17	9.6	35	364	197	179	72	19	4.7	2.8
14	.10	1.9	17	9.3	34	219	181	174	66	16	4.3	2.6
15	.10	1.9	17	9.3	32	150	232	172	60	16	4.3	2.3
16	.20	8.5	17	9.3	31	733	204	172	56	16	4.3	2.3
17	.20	11	17	9.3	30	286	179	174	50	15	4.0	2.3
18	.30	5.2	16	9.3	29	193	452	172	45	14	3.4	4.3
19	.40	4.0	15	9.1	28	152	419	163	43	14	3.4	8.2
20	.30	15	14	9.3	29	132	407	156	42	14	3.4	5.1
21	.40	21	13	35	25	120	461	148	39	13	3.7	4.3
22	.40	26	12	130	25	112	452	142	36	13	3.4	3.7
23	.40	19	12	53	25	105	398	134	35	12	3.4	4.0
24	.40	8.9	12	220	24	104	447	128	35	12	3.4	4.0
25	.40	6.6	12	147	40	98	334	122	32	11	3.1	4.0
26	.40	5.4	13	86	33	97	295	116	31	9.8	3.1	4.0
27	.40	5.4	11	78	29	95	303	109	31	9.3	2.8	3.4
28	.40	5.7	11	74	27	120	293	105	30	8.7	2.8	3.4
29	.60	14	11	174	- - - -	122	231	103	29	8.2	2.8	3.1
30	.60	8.4	11	397	- - - -	105	216	100	28	8.2	2.6	3.4
31	.70	- - - -	11	369	- - - -	140	- - - -	102	- - - -	7.7	2.6	- - - -
Total	6.70	189.20	2,754.9	1,962.5	1,356	4,112	8,717	5,152	1,765	493.9	138.6	98.0
Mean	0.22	6.31	88.9	63.3	48.4	133	291	166	58.8	15.9	4.47	3.27
Max	0.70	26	1,310	397	173	733	598	283	97	26	7.2	8.2
Min	0	0.70	6.9	9.1	24	20	148	100	28	7.7	2.6	2.3
Ac-ft	13	375	5,460	3,890	2,690	8,160	17,290	10,220	3,500	980	275	194

Cal yr 1966: Total 7,009.3 Mean 19.2 Max 1,310 Min 0 Ac-ft 13,900
Wtr yr 1967: Total 26,745.8 Mean 73.3 Max 1,310 Min 0 Ac-ft 53,050

SAN JOAQUIN RIVER BASIN

11-2589. WEST FORK CHOWCHILLA RIVER NEAR MARIPOSA, CALIF.

LOCATION.--Lat 37°25'15", long 119°52'25", in SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec.10, T.6 S., R.19 E., on left bank 15 ft downstream from bridge on Indian Peak Road, 0.5 mile downstream from Humbug Creek, and 6.7 miles southeast of Mariposa.

DRAINAGE AREA.--33.6 sq mi.

RECORDS AVAILABLE.--October 1957 to September 1967.

GAGE.--Graphic water-stage recorder. Altitude of gage is 1,680 ft (from topographic map).

AVERAGE DISCHARGE.--10 years, 17.0 cfs (12,310 acre-ft per year).

EXTREMES.--Maximum discharge during year, 1,900 cfs Mar. 16 (gage height, 7.32 ft); no flow for many days.
1957-67: Maximum discharge, 3,590 cfs Apr. 3, 1958 (gage height, 8.67 ft), from rating curve extended above 1,800 cfs; no flow for many days in each year.

REMARKS.--No known diversions above station.

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

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	0.10	1.5	87	11	133	107	28	2.3		
2		0	103	1.3	59	10	149	100	24	2.2		
3		0	75	1.3	44	12	103	97	22	2.0		
4		0	7.8	1.3	37	13	203	92	20	1.8		
5		0	342	1.3	31	11	210	87	25	1.6		
6		0	843	1.2	27	10	183	81	24	1.8		
7		0	94	1.3	23	10	415	75	21	1.3		
8		0	38	1.3	20	10	170	71	19	1.3		
9		0	20	1.3	18	9.9	129	69	17	1.1		
10		0	13	1.4	18	9.8	121	97	16	.90		
11		0	8.7	1.4	16	99	217	73	15	.70		
12		0	7.0	1.4	15	447	142	65	15	.60		
13		0	5.7	1.5	15	357	114	61	15	.60		
14		0	4.8	1.5	14	206	105	55	14	.50		
15		0	4.2	1.4	12	136	152	52	12	.50		
16		0	3.8	1.4	12	723	126	49	11	.50		
17		0	3.5	1.5	12	226	106	46	11	.40		
18		0	3.1	1.4	11	135	346	43	9.9	.40		
19		0	2.8	1.5	11	106	295	41	9.6	.30		
20		0	2.5	1.6	11	92	276	38	9.4	.30		
21		0	2.3	7.0	9.9	81	353	35	8.0	.20		
22		.50	2.1	75	10	73	281	33	7.0	.20		
23		.80	1.9	22	10	68	224	30	5.3	.20		
24		.10	1.7	133	9.9	62	232	29	6.1	.20		
25		0	1.7	102	29	57	177	27	5.3	.10		
26		0	2.2	44	17	55	156	26	4.8	.10		
27		0	1.7	32	12	51	151	25	4.2	.10		
28		0	1.5	27	11	76	151	24	3.5	.10		
29		0.20	1.7	114	-----	74	126	24	3.2	0		
30		0.10	1.7	243	-----	64	117	23	2.8	0		
31		-----	1.6	205	-----	118	-----	25	-----	0		-----
Total	0	1.70	1,602.1	1,031.8	600.8	3,412.7	5,678	1,700	389.1	22.30	0	0
Mean	0	0.06	51.7	33.3	21.5	110	189	54.8	13.0	0.72	0	0
Max	0	0.80	343	243	87	723	415	107	28	2.3	0	0
Min	0	0	0.10	1.2	9.9	9.8	105	23	2.8	0	0	0
Ac-ft	0	3.4	3,170	2,050	1,190	6,770	11,260	3,370	772	44	0	0
Cal yr 1966 Total		3,497.0	Mean	9.58	Max	343	Min	0	Ac-ft	6,940		
Wtr yr 1967 Total		14,433.5	Mean	39.6	Max	343	Min	0	Ac-ft	28,540		

11-2589.2. MIDDLE FORK CHOWCHILLA RIVER NEAR NIPINNAWASEE, CALIF.

LOCATION.--Lat 37°23'00", long 119°50'12", in SW¼NE¼ sec.25, T.6 S., R.19 E., on right bank 3.4 miles upstream from West Fork and 6 miles west of Nipinnawasee.

DRAINAGE AREA.--13.6 sq mi.

RECORDS AVAILABLE.--October 1958 to September 1967 (discontinued).

GAGE.--Graphic water-stage recorder. Altitude of gage is 1,520 ft (from topographic map).

AVERAGE DISCHARGE.--9 years, 7.92 cfs (5,730 acre-ft per year).

EXTREMES.--Maximum discharge during year, 1,010 cfs Dec. 6 (gage height, 8.29 ft); no flow for many days.
1958-67: Maximum discharge, 1,280 cfs Feb. 1, 1963 (gage height, 10.10 ft); no flow for several months in most years.

REMARKS.--Small diversion above station for irrigation.

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

REVISIONS (water years).--1965 report: 1959(M), 1960(M).

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0.10	0.80	2.5	46	6.2	44	53	17	4.3	1.1	0
2	0	.10	23	2.4	30	5.7	64	49	16	4.0	.90	0
3	0	.10	60	2.4	24	5.7	49	45	15	3.6	.80	.10
4	0	.10	7.2	2.3	19	7.1	91	45	15	3.6	.80	0
5	0	.10	151	2.4	15	6.2	101	43	16	3.6	.60	.10
6	0	.30	460	2.4	14	6.0	62	40	16	4.0	.60	0
7	0	.60	63	2.4	12	6.0	257	40	14	3.8	.40	0
8	0	.50	24	2.3	10	5.7	87	40	14	3.8	.40	0
9	0	.50	15	2.3	9.5	5.7	59	42	13	3.6	.50	0
10	0	.50	12	2.3	9.2	5.4	53	57	13	3.6	.40	.10
11	0	.50	9.5	2.1	8.8	28	98	44	12	3.3	.40	0
12	0	.20	7.6	2.1	3.2	124	76	41	12	2.8	.30	0
13	0	.20	6.6	2.3	7.9	144	58	38	12	2.5	.30	0
14	0	.20	5.6	2.2	7.4	92	49	35	11	2.9	.20	0
15	0	.20	5.1	2.3	7.2	48	71	33	9.5	3.1	.20	0
16	0	1.3	4.3	2.2	6.9	270	68	32	8.8	2.9	.20	0
17	0	.50	4.1	2.2	6.7	82	59	31	8.1	2.8	.10	.10
18	0	.20	3.9	2.0	6.6	50	141	30	7.1	2.8	.10	.60
19	0	.30	3.7	2.0	6.7	38	134	28	6.8	2.6	.10	.60
20	0	1.3	3.5	2.1	5.9	31	123	27	6.2	2.5	.30	.20
21	0	1.7	3.2	7.7	6.0	28	145	25	6.0	2.3	.10	.10
22	0	3.4	3.1	62	6.2	25	160	24	6.0	2.2	.10	.20
23	0	2.5	2.9	18	6.1	22	143	21	5.7	2.1	0	.20
24	0	1.2	2.9	82	5.9	21	172	20	5.4	2.1	0	.20
25	0	.80	2.9	61	12	19	120	20	5.4	1.9	0	.20
26	0	.70	3.1	28	10	19	97	19	5.2	1.7	.10	.20
27	0	.50	3.1	20	7.4	17	91	19	4.9	1.6	0	.10
28	0	.70	2.6	16	6.3	23	93	17	4.9	1.4	0	.10
29	0	.90	2.9	57	---	39	67	18	4.5	1.4	0	.20
30	.10	.90	2.9	132	---	23	61	18	4.7	1.4	0	.10
31	.10	---	2.7	114	---	37	---	18	---	1.1	0	---
Total	0.20	21.10	902.20	642.9	321.9	1239.7	2893	1011	295.2	85.3	8.80	3.40
Mean	0.006	0.70	29.1	20.7	11.5	40.0	96.4	32.6	9.8	2.75	0.28	0.12
Max	0.10	3.4	460	132	46	270	257	57	17	4.3	1.1	0.60
Min	0	0.10	0.80	2.0	5.9	5.4	44	17	4.5	1.1	0	0
Ac-ft	0.40	42	1790	1280	638	2460	5740	2010	586	159	17	6.7
Cal yr 1966: Total	1,967.50	Mean	5.39	Max	460	Min	0	Ac-ft	3,900			
Wtr yr 1967: Total	7,425.20	Mean	20.3	Max	460	Min	0	Ac-ft	14,730			

SAN JOAQUIN RIVER BASIN

11-2590. CHOWCHILLA RIVER AT BUCHANAN DAMSITE, NEAR RAYMOND, CALIF.

LOCATION.--Lat 37°13'02", long 119°59'03", in SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec.22, T.8 S., R.18 E., on right bank 1.9 miles upstream from Raynor Creek and 4.3 miles west of Raymond.

DRAINAGE AREA.--235 sq mi.

RECORDS AVAILABLE.--October 1921 to September 1923, October 1930 to September 1967. Prior to Oct. 1, 1962, published as "at Buchanan damsite."

GAGE.--Digital water-stage recorder. Datum of gage is 407.30 ft above mean sea level, adjustment of 1912 (levels by Merced Irrigation District). Graphic water-stage recorder October 1921 to September 1923 at site 2.5 miles upstream at different datum and October 1923 to September 1963 at present site and datum.

AVERAGE DISCHARGE.--39 years (1921-23, 1930-67), 98.2 cfs (71,090 acre-ft per year); median of yearly mean discharges, 81 cfs (58,600 acre-ft per year).

EXTREMES.--Maximum discharge during year, 6,880 cfs Dec. 6 (gage height, 10.52 ft); no flow for many days. 1921-23, 1930-67: Maximum discharge, 30,000 cfs Dec. 23, 1955 (gage height, 16.50 ft), from rating curve extended above 6,000 cfs on basis of slope-area measurement at gage height 15.06 ft; no flow for part of each year except 1937-38, 1940-43.

REMARKS.--Records good. No storage or large diversion above station. Records of chemical analyses for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0	0	13	28	666	71	575	566	161	38	6.8	.40
2	0	0	16	27	402	68	589	535	152	35	6.4	.38
3	0	0	493	27	310	66	479	513	142	35	6.1	.44
4	0	0	121	26	253	69	479	504	134	30	5.5	.38
5	0	0	759	26	218	68	1,200	473	149	28	4.9	.39
6	0	0	3,920	26	188	63	663	447	150	29	4.6	.47
7	0	0	1,000	25	166	61	2,050	423	139	29	4.1	.48
8	0	0	303	24	149	60	1,020	419	128	26	4.0	.41
9	0	0	172	24	136	58	684	422	120	25	3.7	.42
10	0	0	121	23	128	55	590	558	113	24	3.7	.45
11	0	0	96	23	120	100	1,230	481	109	22	3.5	.46
12	0	0	79	23	111	863	894	393	106	20	3.3	.48
13	0	0	69	23	106	1,520	637	355	105	19	2.8	.46
14	0	0	60	22	102	1,190	550	330	100	17	2.5	.47
15	0	0	54	22	94	545	742	317	94	16	2.3	.43
16	0	0	49	22	90	2,100	754	312	88	16	2.0	.39
17	0	0	45	22	87	1,150	586	306	83	16	1.8	.40
18	0	3.8	42	22	84	605	1,660	294	78	15	1.6	.90
19	0	5.6	39	21	83	457	2,380	278	74	14	1.3	1.7
20	0	8.4	37	22	80	372	1,920	266	72	14	1.2	3.7
21	0	20	35	30	75	322	1,830	253	68	13	1.0	4.3
22	0	30	34	227	72	291	2,190	237	63	12	.98	3.4
23	0	38	32	168	72	267	1,400	218	59	12	.90	2.9
24	0	24	31	329	71	243	1,530	201	57	11	.84	2.5
25	0	15	30	709	113	217	1,140	188	54	11	.73	2.7
26	0	11	34	273	123	205	922	174	51	10	.75	2.8
27	0	9.6	33	172	86	189	838	167	48	9.4	.60	2.7
28	0	9.3	30	139	77	188	862	160	45	8.8	.56	2.6
29	0	9.7	29	387	-----	359	692	155	43	8.4	.54	2.5
30	0	17	29	1,280	-----	239	620	155	41	7.7	.54	2.3
31	0	-----	29	1,790	-----	385	-----	149	-----	7.2	.45	-----
TOTAL	0	201.4	7,834	5,982	4,262	12,446	31,706	10,249	2,826	578.5	79.99	42.33
MEAN	0	6.71	253	193	152	401	1,057	331	94.2	18.7	2.58	1.41
MAX	0	38	3,920	1,790	666	2,100	2,380	566	161	38	6.8	4.3
MIN	0	0	13	21	71	55	479	149	41	7.2	.45	.38
AC-FT	0	399	15,540	11,870	8,450	24,690	62,890	20,330	5,610	1,150	159	84

CAL YR 1966: TOTAL 18,489.60 MEAN 50.7 MAX 3,920 MIN 0 AC-FT 36,670
 WAT YR 1967: TOTAL 76,207.22 MEAN 209 MAX 3,920 MIN 0 AC-FT 151,200

Peak discharge (base, 770 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-3	0645	6.26	1,350	3-16	1645	9.65	5,430
12-6	1900	10.52	6,880	4-7	0930	8.30	3,380
1-24	2315	5.94	1,150	4-11	0500	6.65	1,670
1-30	2400	9.06	4,220	4-15	2015	5.81	1,080
3-13	0345	7.59	2,560	4-22	0030	8.63	3,840

SAN JOAQUIN RIVER BASIN

657

11-2602. BEAR CREEK NEAR CATHEYS VALLEY, CALIF.

LOCATION.--Lat 37°28'40", long 120°06'45", in SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.21, T.5 S., R.17 E., on downstream side of bridge, 0.9 mile upstream from Raster Gulch, and 3.3 miles north of town of Catheys Valley.

DRAINAGE AREA.--24.9 sq mi.

RECORDS AVAILABLE.--January 1958 to September 1967. Prior to October 1963, published as "near Cathay."

GAGE.--Graphic water-stage recorder. Altitude of gage is 1,210 ft (from topographic map).

AVERAGE DISCHARGE.--9 years, 12.4 cfs (8,980 acre-ft per year).

EXTREMES.--Maximum discharge during year, 1,810 cfs Apr. 7 (gage height, 7.94 ft); no flow for several months. 1958-67: Maximum discharge, 2,520 cfs Feb. 1, 1963 (gage height, 10.07 ft), from rating curve extended above 800 cfs; no flow for many days in each year.

REMARKS.--No known diversion or regulation above station.

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

REVISIONS (water years).--1965 report: 1958(M), 1962(M), 1963.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	0.80	1.06	3.0	63	13	2.3			
2			59	.80	46	2.8	111	11	2.2			
3			98	.70	25	2.5	72	9.8	2.1			
4			15	.80	17	2.4	115	8.8	1.8			
5			283	.70	12	2.2	242	3.1	6.5			
6			766	.70	9.3	2.0	136	7.4	3.6			
7			118	.70	7.6	1.8	595	6.3	2.6			
8			34	.60	5.9	1.6	174	6.0	2.2			
9			16	.60	5.2	1.5	105	5.5	1.9			
10			10	.60	4.9	1.2	96	12	1.8			
11			7.5	.50	4.5	54	361	7.8	1.6			
12			5.7	.40	3.9	234	173	6.0	1.5			
13			4.6	.50	3.6	247	98	5.2	1.3			
14			3.7	.50	3.1	192	59	4.6	1.2			
15			3.1	.50	2.7	104	75	4.3	1.0			
16			2.7	.50	2.6	305	70	3.9	.90			
17			2.4	.50	2.3	161	42	3.4	.60			
18			2.0	.50	2.1	93	472	3.2	.60			
19			1.8	.50	2.0	52	309	2.9	.50			
20			1.8	.50	1.9	36	156	2.6	.40			
21			1.7	1.0	1.8	27	202	2.3	.40			
22			1.6	26	1.6	23	252	2.2	.30			
23			1.5	13	1.5	19	152	1.9	.20			
24			1.3	109	1.5	16	161	1.7	.20			
25			1.2	94	7.7	13	105	1.6	.20			
26			1.2	30	6.5	12	59	1.6	.10			
27			1.1	17	4.2	11	44	1.6	.10			
28			1.0	12	3.5	11	31	1.6	.10			
29			1.0	153	---	13	22	1.5	.10			
30			1.0	375	---	11	16	1.5	.10			
31		-----	.90	230	---	50	---	1.5	-----			-----
Total	0	0	1,447.80	1,076.90	295.9	1,705.0	4,568	150.8	33.60	0	0	0
Mean	0	0	46.7	34.7	10.6	55.0	152	4.86	1.29	0	0	0
Max	0	0	766	375	106	305	595	13	6.5	0	0	0
Min	0	0	0	0.40	1.5	1.2	16	1.5	.10	0	0	0
Ac-ft	0	0	2,970	2,140	587	3,380	9,060	299	77	0	0	0
Cal yr 1966: Total	2,361.8		Mean	6.47	Max	766	Min	0	Ac-ft	4,680		
Wtr yr 1967: Total	9,283.0		Mean	25.4	Max	766	Min	0	Ac-ft	18,410		

SAN JOAQUIN RIVER BASIN

11-2602.25. BURNS CREEK AT HORNITOS, CALIF.

LOCATION (revised).--Lat 37°29'45", long 120°14'17", in SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec.17, T.5 S., R.16 E., on right bank 0.3 mile south of Hornitos and 12.4 miles upstream from Burns Dam.

DRAINAGE AREA.--26.7 sq mi.

RECORDS AVAILABLE.--October 1964 to September 1967. December 1958 to September 1964 in reports of California Department of Water Resources.

GAGE.--Graphic water-stage recorder. Altitude of gage is 780 ft (from topographic map).

EXTREMES.--Maximum discharge during year, 1,870 cfs Jan. 30 (gage height, 6.81 ft), from rating curve extended above 400 cfs as explained below; no flow for many days.

1964-67: Maximum discharge, 5,900 cfs Jan. 6, 1965 (gage height, 9.30 ft), from rating curve extended above 400 cfs on basis of slope-conveyance computation at gage height 10.66 ft; no flow for many days in each year.

Flood of Feb. 15, 1962, reached a stage of 10.66 ft (discharge, 9,200 cfs), from rating curve extended above 400 cfs on basis of slope-conveyance computation of maximum flow.

REMARKS.--There is no known diversion above station.

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

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	0.90	3.9	2.5	9.3	4.6	1.6	0.20		
2			5.2	1.0	2.0	2.5	12	3.4	1.6	.20		
3			7.7	1.0	14	2.3	7.9	3.1	1.6	.20		
4			.90	.90	11	2.2	54	3.1	1.4	.10		
5			174	.90	8.8	2.2	97	3.1	2.2	.10		
6			569	.90	7.4	1.9	162	3.1	2.2	.20		
7			43	.90	5.6	1.6	410	3.8	1.8	.20		
8			15	.80	4.9	1.1	54	4.2	1.8	.20		
9			10	.80	3.9	.90	31	5.1	1.4	.10		
10			7.3	.70	3.4	.60	141	10	1.4	.10		
11			4.4	.70	2.8	24	307	5.5	1.2	.10		
12			3.4	.70	2.9	233	55	4.0	1.2	.10		
13			3.1	.70	2.8	166	30	3.8	1.2	.10		
14			2.6	.70	2.3	71	20	3.1	1.2	.10		
15			2.5	.70	1.8	26	35	2.9	1.0	.10		
16			2.2	.70	1.7	171	30	2.5	.90	0		
17			1.9	.70	1.7	40	20	2.1	.80	0		
18			1.6	.70	1.7	22	510	1.7	.80	0		
19			1.5	.70	1.6	16	260	1.7	.80	0		
20			1.6	.80	1.6	12	80	1.6	.70	0		
21			1.5	1.6	1.4	9.6	180	1.4	.70	0		
22			1.3	43	1.5	3.5	210	1.3	.70	0		
23			1.1	4.9	1.5	7.0	130	.70	.60	0		
24			1.1	90	1.3	5.6	130	1.0	.60	0		
25			1.3	22	3.6	5.2	70	1.1	.50	0		
26			1.5	9.0	6.6	4.4	35	1.1	.50	0		
27			1.4	5.0	3.8	3.7	30	1.1	.50	0		
28			1.2	3.7	3.1	4.4	20	1.0	.30	0		
29			1.0	132	---	4.9	10	1.0	.30	0		
30			.90	327	---	4.1	5.6	.90	.20	0		
31		-----	.90	156	---	11	---	1.2	---	0		-----
Total	0	0	870.10	810.10	194.1	867.20	3,145.8	84.20	31.70	2.10	0	0
Mean	0	0	28.1	26.1	6.93	28.0	105	2.72	1.05	0.07	0	0
Max	0	0	569	327	39	233	510	10	2.2	0.20	0	0
Min	0	0	0	0.70	1.3	0.60	5.6	0.70	0.20	0	0	0
Ac-ft	0	0	1,730	1,610	385	1,720	6,240	167	63	4.2	0	0
Cal yr 1966: Total	1,546.00	Mean	4.24	Max	569	Min	0	Ac-ft	3,070			
Wtr yr 1967: Total	6,005.30	Mean	16.5	Max	569	Min	0	Ac-ft	11,910			

SAN JOAQUIN RIVER BASIN

659

11-2604.8. MARIPOSA CREEK NEAR CATHEYS VALLEY, CALIF.

LOCATION.--Lat 37°23'55", long 120°00'10", in SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec.21, T.6 S., R.18 E., on downstream side of bridge on White Rock Road, 0.3 mile downstream from China Gulch, and 5.7 miles southeast of town of Catheys Valley.

DRAINAGE AREA.--65.7 sq mi.

RECORDS AVAILABLE.--October 1958 to September 1967. Prior to October 1963, published as "near Cathay."

GAGE.--Graphic water-stage recorder. Altitude of gage is 1,230 ft (from topographic map).

AVERAGE DISCHARGE.--9 years, 23.9 cfs (17,300 acre-ft per year).

EXTREMES.--Maximum discharge during year, 3,820 cfs Dec. 6 (gage height, 9.72 ft); no flow for many days.
1958-67: Maximum discharge, 5,290 cfs Feb. 1, 1963 (gage height, 10.69 ft); no flow for many days in each year.

Flood of Apr. 3, 1958, reached a stage of 11.62 ft (discharge, 7,180 cfs).

REMARKS.--Probably minor diversions above the station for irrigation.

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

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	3.8	4.8	149	12	102	85	22	3.0		
2		0	149	4.3	87	11	156	73	21	2.7		
3		0	149	4.3	63	10	105	68	20	2.5		
4		0	26	4.6	46	10	152	67	17	2.3		
5		0	443	4.6	40	3.7	317	65	40	2.1		
6		0	1470	4.3	35	9.0	160	58	25	2.4		
7		0	157	4.1	31	3.7	690	52	21	2.3		
8		0	50	3.8	27	8.4	265	48	19	1.9		
9		0	33	4.0	24	3.1	161	46	16	1.8		
10		0	24	3.8	22	7.8	134	70	15	1.7		
11		0	19	4.0	20	93	413	53	14	1.6		
12		0	15	4.1	19	552	238	45	13	1.3		
13		0	12	4.6	18	660	155	42	12	1.1		
14		0	10	4.5	16	421	121	39	11	.80		
15		0	9.3	4.3	14	166	155	37	10	.70		
16		0	3.4	4.1	14	911	126	35	9.3	.70		
17		0	7.8	4.0	13	299	101	33	3.7	.80		
18		0	7.1	4.0	13	144	684	30	7.8	.50		
19		0	7.3	3.8	12	100	676	28	7.6	.50		
20		0	6.5	3.8	11	83	546	26	7.1	.50		
21		2.4	6.1	7.3	11	66	741	24	6.5	.40		
22		3.1	6.1	46	10	54	649	23	5.9	.40		
23		9.6	5.9	23	10	47	383	23	5.5	.30		
24		5.0	5.5	110	10	42	350	22	5.2	.20		
25		3.7	5.5	160	34	38	225	21	5.0	.10		
26		3.0	5.7	61	23	36	163	20	4.6	.10		
27		2.7	5.4	38	15	33	147	20	4.3	.10		
28		3.1	5.2	31	13	37	129	19	3.8	.10		
29		4.6	5.2	185	---	42	106	19	3.7	.10		
30		4.0	5.2	568	---	35	94	19	3.4	.10		
31		---	4.8	465	---	99	---	19	---	0		---
Total	0	46.2	2,667.8	1,778.3	800	4,051.7	8,448	1,229	364.4	33.10	0	0
Mean	0	1.54	86.1	57.4	23.6	131	282	39.6	12.1	1.07	0	0
Max	0	9.6	1,470	568	149	911	741	85	40	3.0	0	0
Min	0	0	3.8	3.8	10	7.8	94	19	3.4	0	0	0
Ac-ft	0	92	5,290	3,530	1,590	8,040	16,760	2,440	723	66	0	0

Cal yr 1966: Total 4,326.7 Mean 13.2 Max 1,470 Min 0 Ac-ft 9,570
Wtr yr 1967: Total 19,418.5 Mean 53.2 Max 1,470 Min 0 Ac-ft 38,520

SAN JOAQUIN RIVER BASIN

11-2610. SALT SLOUGH NEAR LOS BANOS, CALIF.

LOCATION.--Lat 37°09'35", long 120°48'45", in Sanjon de Santa Rita Grant, on left bank at San Luis Ranch, 600 yards downstream from confluence with Mud Slough, and 7.0 miles north of Los Banos.

RECORDS AVAILABLE.--October 1940 to September 1967. Monthly discharge only for October to December 1940, published in WSP 1315-A.

GAGE.--Digital water-stage recorder. Datum of gage is 70.60 ft above mean sea level (levels by Bureau of Reclamation). Prior to Apr. 15, 1965, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--27 years, 198 cfs (143,300 acre-ft per year).

EXTREMES.--Maximum discharge during year, 413 cfs June 8 (gage height, 5.94 ft); minimum daily, 11 cfs Oct. 11, 1940-67: Maximum daily discharge, 2,420 cfs Mar. 9, 1941; minimum daily, 4.0 cfs Oct. 27, 1961, and Oct. 20, 1964.

REMARKS.--Records good. Flow regulated by irrigation operations above station. Salt Slough is a continuation of Pick Anderson Slough system.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	44	70	142	146	184	103	304	234	368	238	157	133
2	55	59	148	144	182	103	324	226	376	256	135	120
3	72	54	170	141	167	116	362	220	376	280	125	113
4	74	53	171	137	162	130	379	235	397	284	120	125
5	59	54	185	114	158	141	379	245	394	256	129	125
6	69	63	208	128	154	151	373	229	399	256	138	130
7	50	73	233	136	155	152	386	227	403	258	141	113
8	38	73	246	145	156	146	382	202	396	240	135	96
9	30	75	243	138	156	158	349	209	342	240	134	108
10	24	77	228	135	152	154	337	260	325	261	133	86
11	11	75	225	133	156	160	336	304	313	286	137	83
12	12	71	223	127	155	178	332	311	313	280	150	77
13	16	66	223	125	156	203	328	333	316	286	149	75
14	23	62	222	123	155	192	278	341	290	279	150	81
15	35	61	222	118	157	187	269	338	320	269	160	100
16	40	61	219	115	154	202	283	323	307	250	152	86
17	39	61	207	108	150	225	267	299	280	231	149	76
18	37	60	195	105	155	207	258	282	273	203	142	68
19	42	60	191	111	147	194	266	280	304	184	149	62
20	45	76	185	113	151	192	279	290	322	177	160	54
21	49	83	182	110	144	167	284	294	325	165	158	47
22	49	79	183	117	149	143	289	298	295	183	130	55
23	49	83	180	117	153	129	276	323	291	172	127	66
24	46	94	176	124	135	149	264	324	286	179	143	79
25	49	95	172	129	132	207	250	334	296	160	155	97
26	51	101	167	130	131	223	241	322	298	144	154	106
27	46	120	161	127	138	219	231	313	293	156	131	82
28	50	129	149	124	118	251	229	323	273	148	123	70
29	70	137	144	127	-----	260	228	311	260	122	116	75
30	84	142	143	142	-----	243	236	320	250	131	130	92
31	78	-----	145	172	-----	277	-----	344	-----	146	165	-----
TOTAL	1,436	2,367	5,888	3,961	4,262	5,562	8,999	8,894	9,681	6,720	4,377	2,680
MEAN	46.3	78.9	190	128	152	179	300	287	323	217	141	89.3
MAX	84	142	246	172	184	277	386	344	403	286	165	133
MIN	11	53	142	105	118	103	228	202	250	122	116	47
AC-FT	2,850	4,690	11,680	7,860	8,450	11,030	17,850	17,640	19,200	13,330	8,680	5,320

CAL YR 1966: TOTAL 34,533
WAT YR 1967: TOTAL 64,827

MEAN 94.6
MEAN 178

MAX 246
MAX 403

MIN 11
MIN 11

AC-FT 68,500
AC-FT 128,600

11-2615. SAN JOAQUIN RIVER AT FREMONT FORD BRIDGE, CALIF.

LOCATION.--Lat 37°18'35", long 120°55'45", in Orestimba Grant, on left bank 30 ft downstream from Fremont Ford Bridge, 2.1 miles downstream from Salt Slough, 4.5 miles west of Stevinson, Merced County, and 6.7 miles upstream from Merced River.

DRAINAGE AREA.--7,619 sq mi.

RECORDS AVAILABLE.--March 1937 to September 1967. Monthly discharge only for some periods, published in WSP 1315-A.

GAGE.--Digital water-stage recorder. Datum of gage is at mean sea level. March 1937 to Oct. 1, 1959, at datum 3.77 ft below mean sea level. Prior to June 9, 1965, graphic water-stage recorder at same site.

AVERAGE DISCHARGE.--30 years, 779 cfs (564,000 acre-ft per year).

EXTREMES.--Maximum discharge during year, 5,380 cfs Apr. 27 (elevation, 66.73 ft); minimum daily, 22 cfs Oct. 13, 19.

1944-67: Maximum discharge, 5,910 cfs Apr. 6, 1958 (elevation, 67.37 ft, present datum); minimum, 9.5 cfs Oct. 30, 1960.

REMARKS.--Records good. Natural flow of stream affected by storage reservoirs, ground-water withdrawals, diversions for irrigation, and imported water from Delta-Mendota Canal (see sta. no. 3130). During periods of high flow, water bypasses this station through Mud Slough; low flows consist mainly of return water from irrigated areas. Stage affected at times by backwater from the Merced River. See REMARKS for station upstream.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	76	65	121	180	2,240	228	381	5,160	4,440	1,250	273	345
2	78	48	119	177	2,750	214	410	5,140	4,470	1,350	278	330
3	76	37	140	174	2,640	215	581	5,090	4,490	1,500	254	314
4	82	35	168	173	2,190	213	913	5,070	4,510	1,600	251	311
5	84	32	203	193	2,130	211	963	5,050	4,550	1,800	246	350
6	64	41	264	200	2,400	220	937	5,000	4,550	1,970	259	361
7	61	58	505	206	2,650	225	1,540	4,970	4,530	2,060	243	349
8	58	72	1,430	230	2,760	228	1,910	4,920	4,520	2,310	264	325
9	54	65	2,240	238	2,650	228	2,440	4,850	4,530	2,490	263	292
10	54	72	1,970	221	2,220	231	2,760	4,790	4,540	2,570	275	286
11	52	78	1,550	209	1,590	234	2,610	4,750	4,560	2,650	294	284
12	37	77	1,130	200	1,110	244	2,500	4,730	4,510	2,330	293	289
13	22	76	871	195	892	269	2,810	4,730	4,420	1,710	302	310
14	32	74	694	187	768	493	2,910	4,730	4,320	1,060	311	298
15	41	70	578	182	668	1,480	2,700	4,700	4,210	808	326	300
16	24	70	492	173	604	1,940	2,470	4,640	4,050	754	310	324
17	33	67	409	157	511	1,820	2,620	4,550	3,840	849	284	331
18	27	62	334	148	438	2,040	2,960	4,480	3,590	743	275	329
19	22	61	288	144	397	2,320	3,400	4,410	3,410	616	263	356
20	25	55	263	150	358	1,930	4,030	4,360	3,220	648	282	361
21	34	66	247	153	332	1,420	4,880	4,350	3,020	705	300	329
22	38	78	237	174	307	944	5,340	4,330	2,660	545	284	284
23	48	83	238	174	297	671	5,340	4,340	2,460	477	242	287
24	58	81	235	197	288	526	5,340	4,320	2,450	420	252	306
25	38	91	222	245	266	473	5,340	4,320	2,400	436	281	343
26	36	99	212	435	252	447	5,360	4,320	2,330	372	301	356
27	50	105	200	705	242	428	5,360	4,310	2,230	327	328	358
28	44	115	193	894	246	405	5,280	4,300	1,900	314	316	335
29	50	124	190	678	-----	402	5,160	4,320	1,550	301	299	302
30	59	124	189	647	-----	385	5,190	4,340	1,450	278	292	309
31	70	-----	183	1,170	-----	373	-----	4,390	-----	286	314	-----
TOTAL	1,527	2,181	16,115	9,209	34,196	21,457	94,435	143,760	107,710	35,529	8,755	9,654
MEAN	49.3	72.7	520	297	1,221	692	3,148	4,637	3,590	1,146	282	322
MAX	84	124	2,240	1,170	2,760	2,320	5,360	5,160	4,560	2,650	328	361
MIN	22	32	119	144	242	211	381	4,300	1,450	278	242	284
AC-FT	3,030	4,330	31,960	18,270	67,830	42,560	187,300	285,100	213,600	70,470	17,370	19,150

CAL YR 1966: TOTAL 82,393 MEAN 226 MAX 2,240 MIN 22 AC-FT 163,400
WAT YR 1967: TOTAL 484,528 MEAN 1,327 MAX 5,360 MIN 22 AC-FT 961,000

SAN JOAQUIN RIVER BASIN

11-2645. MERCED RIVER AT HAPPY ISLES BRIDGE, NEAR YOSEMITE, CALIF.
(Hydrologic bench-mark station)

LOCATION.--Lat 37°43'54", long 119°33'28", on right bank 10 ft downstream from footbridge at Happy Isles, 0.4 mile downstream from Illilouette Creek, and 2.0 miles southeast of Yosemite National Park headquarters.

DRAINAGE AREA.--181 sq mi.

RECORDS AVAILABLE.--August 1915 to September 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is 4,016.58 ft above mean sea level, datum of 1929. Prior to Nov. 2, 1916, staff gage at datum 0.55 ft lower.

AVERAGE DISCHARGE.--52 years, 340 cfs (246,100 acre-ft per year).

EXTREMES.--Maximum discharge during year, 4,640 cfs June 30 (gage height, 8.02 ft); minimum daily, 3.2 cfs Oct. 25, 26.

1915-67: Maximum discharge, 9,860 cfs Dec. 23, 1955 (gage height, 12.73 ft), from rating curve extended above 4,000 cfs on basis of contracted-opening measurements at gage heights 10.4 and 11.55 ft; minimum, 1.5 cfs Sept. 30, 1926.

REMARKS.--Records excellent. One cfs diverted from Illilouette Creek above station for Yosemite Valley water supply. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8.2	3.6	174	78	148	128	242	177	1,190	3,900	680	169
2	8.2	3.6	169	75	135	134	230	200	994	3,800	608	173
3	8.2	3.8	209	74	134	141	219	219	1,040	3,410	600	191
4	8.2	3.8	150	75	135	137	218	242	1,270	3,030	572	198
5	7.6	3.6	270	75	141	122	212	253	1,370	2,800	514	220
6	7.1	3.8	1,900	67	145	125	210	289	1,190	2,370	440	200
7	6.6	4.3	900	68	156	123	213	424	1,590	2,360	376	164
8	6.3	4.7	410	66	160	139	212	670	1,830	2,100	324	143
9	5.9	5.2	262	66	169	154	222	380	1,970	1,850	289	130
10	5.4	5.6	220	67	188	154	232	715	1,980	1,680	289	118
11	4.7	5.9	188	72	188	150	222	564	2,110	1,630	310	100
12	4.5	6.1	171	76	188	148	215	482	2,080	1,810	307	87
13	4.5	6.8	160	78	182	146	220	482	1,880	2,140	310	80
14	4.3	7.1	145	79	164	175	242	564	1,940	2,160	334	76
15	4.1	7.9	139	81	145	177	240	835	2,080	1,870	348	74
16	4.0	24	141	82	137	615	222	1,200	2,370	1,920	432	70
17	3.8	17	143	81	134	855	222	1,550	2,580	1,520	622	66
18	3.6	14	141	76	135	608	220	1,820	3,000	1,350	760	87
19	3.6	14	141	75	134	469	225	2,000	3,110	1,270	432	108
20	3.8	66	139	82	125	412	220	2,290	2,800	1,100	328	96
21	3.6	38	127	120	120	373	203	2,810	3,190	994	274	84
22	3.4	36	116	106	123	373	202	3,100	3,160	988	274	75
23	3.4	32	110	108	122	352	191	3,310	2,950	925	259	74
24	3.4	29	102	100	122	320	188	3,200	2,930	880	307	76
25	3.2	26	97	114	122	295	179	3,090	3,090	910	546	79
26	3.2	25	88	128	116	271	183	2,930	3,000	925	568	73
27	3.6	25	90	125	114	262	212	2,780	3,090	870	342	66
28	3.6	255	98	123	120	304	195	2,380	3,100	845	253	59
29	3.4	521	93	162	-----	292	182	2,040	3,380	1,030	208	58
30	3.6	286	85	175	-----	259	177	1,910	3,770	885	182	57
31	3.6	-----	81	169	-----	256	-----	1,610	-----	780	173	-----
Total	150.6	1,483.8	7,259	2,923	4,002	8,469	6,384	45,015	69,934	54,102	12,261	3,251
Mean	4.86	49.5	234	94.3	143	273	213	1,452	2,331	1,745	396	108
Max	8.2	521	1,900	175	188	855	242	3,310	3,770	3,900	760	220
Min	3.2	3.6	81	66	114	122	177	177	994	780	173	57
Ac-ft	299	2,940	14,400	5,800	7,940	16,800	12,660	89,290	138,700	107,300	24,320	6,450

Cal yr 1966: Total 100,674.7 Mean 276 Max 1,900 Min 3.2 Ac-ft 199,700
Wtr yr 1967: Total 215,234.4 Mean 590 Max 3,900 Min 3.2 Ac-ft 426,900

Peak discharge (base, 1,900 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-6	-----	6.20	2,160	6-30	2400	8.02	4,640
5-22	2300	7.54	3,800	7-15	2330	6.43	2,390

11-2665. MERCED RIVER AT POHONO BRIDGE, NEAR YOSEMITE, CALIF.

LOCATION.--Lat 37°43'01", long 119°39'55", on left bank 150 ft upstream from Pohono Bridge, 0.4 mile upstream from Artist Creek, and 4.8 miles southwest of Yosemite National Park Headquarters.

DRAINAGE AREA.--321 sq mi.

RECORDS AVAILABLE.--October 1916 to September 1967. Monthly discharge only for October and November 1916, published in WSP 1315-A.

GAGE.--Digital water-stage recorder. Datum of gage is 3,861.66 ft above mean sea level, datum of 1929. Prior to Sept. 5, 1918, graphic water-stage recorder, at datum 1.8 ft higher. Sept. 5, 1918, to Sept. 30, 1955, graphic water-stage recorder, at datum 1.0 ft higher. Oct. 1, 1955, to Oct. 8, 1964, graphic water-stage recorder at present datum.

AVERAGE DISCHARGE.--51 years, 597 cfs (432,200 acre-ft per year).

EXTREMES.--Maximum discharge during year, 6,950 cfs May 23 (gage height, 10.53 ft); minimum daily, 15 cfs Oct. 21-25.

1916-67: Maximum discharge, 23,400 cfs Dec. 23, 1955 (gage height, 21.52 ft, from floodmarks in well), from rating curve extended above 16,300 cfs on basis of computation of flow over diversion dam for Yosemite powerhouse 1 mile downstream at gage heights 20.1 and 20.98 ft, present datum; minimum, 3.3 cfs Sept. 29, Oct. 1, 1924.

REMARKS.--Records excellent. No diversions between stations at Happy Isles Bridge and Pohono Bridge. One cfs sewage effluent returns between stations (see remarks for sta. no. 2645).

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	20	16	314	190	367	298	555	417	2,460	5,920	839	239
2	19	16	353	182	329	315	541	467	2,070	5,770	762	236
3	19	16	472	182	318	337	508	494	2,110	5,390	736	247
4	19	16	303	184	307	308	527	566	2,580	4,690	702	257
5	18	16	526	186	317	280	510	560	2,780	4,340	640	269
6	18	17	3,620	165	319	284	501	631	2,460	3,640	569	260
7	18	18	1,740	168	336	292	516	884	3,110	3,560	503	224
8	18	18	844	165	352	330	496	1,340	3,590	3,190	446	202
9	17	18	627	162	357	361	515	1,740	3,810	2,850	399	186
10	17	18	534	165	393	359	539	1,500	3,870	2,560	387	173
11	17	18	447	175	398	347	507	1,150	4,060	2,420	404	155
12	17	18	396	188	398	351	483	973	4,020	2,560	401	138
13	16	19	372	190	396	319	500	965	3,740	2,890	395	127
14	16	19	339	197	373	346	547	1,120	3,730	2,940	413	120
15	16	20	320	201	318	368	532	1,680	4,030	2,680	498	116
16	16	45	322	207	309	1,530	483	2,400	4,450	2,690	555	111
17	16	52	320	198	301	2,020	500	3,110	4,740	2,150	720	107
18	16	32	314	194	307	1,410	494	3,570	5,320	1,890	902	130
19	16	31	313	189	311	1,050	466	3,810	5,550	1,770	581	166
20	16	128	315	193	292	949	482	4,280	5,190	1,550	459	146
21	15	89	291	284	285	858	460	5,180	5,650	1,390	425	127
22	15	77	263	265	288	849	454	5,750	5,620	1,360	369	118
23	15	62	256	262	287	810	433	6,140	5,050	1,270	364	111
24	15	53	236	254	287	737	441	6,020	5,080	1,200	412	116
25	15	49	226	238	290	680	422	5,820	5,310	1,200	739	117
26	16	50	209	282	265	635	438	5,490	5,130	1,200	749	109
27	16	51	184	297	274	606	492	5,270	5,200	1,120	485	100
28	16	493	200	306	280	727	454	4,670	5,190	1,060	371	94
29	16	900	214	408	-----	659	417	4,040	5,450	1,220	308	96
30	16	470	205	440	-----	594	417	3,790	5,810	1,090	268	94
31	16	-----	196	433	-----	567	-----	3,200	-----	961	248	-----
TOTAL	516	2,845	15,271	7,150	9,054	19,576	14,630	87,027	127,160	78,521	16,049	4,691
MEAN	16.6	94.8	493	231	323	631	488	2,807	4,239	2,533	518	156
MAX	20	900	3,620	440	398	2,020	555	6,140	5,810	5,920	902	269
MIN	15	16	184	162	265	280	417	417	2,070	961	248	94
AC-FT	1,020	5,640	30,290	14,180	17,960	38,830	29,020	172,600	252,200	155,700	31,830	9,300

CAL YR 1966: TOTAL 171,956

MEAN 471

MAX 3,620

MIN 15

AC-FT 341,100

WAT YR 1967: TOTAL 382,490

MEAN 1,048

MAX 6,140

MIN 15

AC-FT 758,700

Peak discharge (base, 2,900 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-06	1645	9.39	5,330	7-01	0215	10.19	6,520
5-23	0100	10.53	6,950				

SAN JOAQUIN RIVER BASIN

11-2673. SOUTH FORK MERCED RIVER AT WAWONA, CALIF.

LOCATION.--Lat 37°32'20", long 119°39'40", in SW¼ sec.34, T.4 S., R.21 E., on left bank in Yosemite National Park, 1,000 ft downstream from highway bridge at Wawona, and 1,200 ft upstream from Big Creek.

DRAINAGE AREA.--100 sq mi.

RECORDS AVAILABLE.--October 1958 to September 1967.

GAGE.--Digital water-stage recorder. Altitude of gage is 4,030 ft (from topographic map). Prior to June 2, 1965, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--9 years, 184 cfs (133,200 acre-ft per year).

EXTREMES.--Maximum discharge during year, 4,670 cfs Dec. 6 (gage height, 7.71 ft); minimum daily, 2.2 cfs Oct. 1-3, 10, 11.

1958-67: Maximum discharge, 9,030 cfs Dec. 23, 1964 (gage height, 9.83 ft in gage well, 10.5 ft outside, from floodmarks); minimum, 0.6 cfs Sept. 5, 1960.

Flood of Dec. 23, 1955, reached a stage of 12 ft, from floodmarks (discharge, 15,000 cfs).

REMARKS.--Records excellent except those for the winter periods, which are fair. Diversion of 0.5 cfs above station for town of Wawona. Small amount diverted above station during summer for irrigation of Wawona Golf Course.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	2.2	3.0	100	69	162	115	237	174	746	1,590	123	20
2	2.2	3.0	239	69	137	120	222	196	630	1,880	112	20
3	2.2	3.0	276	66	130	130	210	214	698	1,580	106	20
4	2.3	3.0	127	66	129	120	221	237	909	1,440	96	21
5	2.4	3.1	525	68	136	109	213	229	965	1,180	86	19
6	2.3	4.4	3,130	62	140	107	217	266	830	1,100	76	19
7	2.3	7.8	885	60	144	112	243	384	1,130	1,020	67	17
8	2.4	7.2	356	58	148	127	213	595	1,270	888	59	16
9	2.4	7.1	269	57	148	138	216	698	1,310	794	53	16
10	2.2	6.2	214	56	164	134	223	580	1,360	722	53	15
11	2.2	5.7	180	62	170	141	216	420	1,370	710	53	14
12	2.3	5.6	160	69	169	197	200	360	1,340	692	49	14
13	2.3	5.6	150	71	165	160	213	360	1,250	692	47	13
14	2.4	5.6	134	75	153	150	235	472	1,240	645	45	12
15	2.5	5.6	127	74	133	165	228	716	1,340	670	44	12
16	2.6	37	120	76	125	1,650	204	1,020	1,500	564	56	11
17	2.4	23	118	78	119	1,130	198	1,280	1,740	480	85	11
18	2.6	9.6	116	73	119	704	215	1,410	1,850	418	116	18
19	2.7	8.4	114	68	123	540	202	1,500	1,700	367	56	24
20	2.7	95	110	72	118	440	197	1,740	1,870	312	45	19
21	2.7	45	106	134	113	404	185	2,030	2,100	284	37	15
22	2.7	36	104	120	113	400	179	2,210	1,870	267	33	13
23	2.9	22	99	99	113	368	174	2,200	1,760	244	28	18
24	3.0	18	93	89	110	328	173	2,070	1,890	230	28	19
25	3.0	15	90	99	114	300	169	1,990	1,870	226	53	22
26	2.9	15	84	98	105	275	187	1,820	1,830	204	89	19
27	2.8	17	82	109	106	269	214	1,690	1,830	185	44	15
28	3.0	419	80	113	109	322	188	1,500	1,850	176	33	13
29	3.0	380	77	232	-----	290	171	1,360	2,000	161	26	14
30	3.0	155	75	266	-----	259	167	1,250	2,060	144	24	12
31	3.0	-----	74	248	-----	250	-----	1,010	-----	140	22	-----
TOTAL	79.6	1,370.9	8,454	2,956	3,715	9,954	6,130	31,981	44,108	20,405	1,844	491
MEAN	2.57	45.7	273	95.4	133	321	204	1,032	1,470	658	59.5	16.4
MAX	3.0	419	3,130	266	170	1,650	243	2,210	2,100	1,590	123	24
MIN	2.2	3.0	74	56	105	107	167	174	630	140	22	11
AC-FT	158	2,720	16,770	5,860	7,370	19,740	12,160	63,430	87,490	40,470	3,660	974

CAL YR 1966: TOTAL 61,354.7 MEAN 168 MAX 3,130 MIN 1.9 AC-FT 121,700
 WAT YR 1967: TOTAL 131,488.5 MEAN 360 MAX 3,130 MIN 2.2 AC-FT 260,800

Peak discharge (base, 1,200 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-28	1630	4.90	1,280	5-22	1930	6.69	3,010
12-06	1430	7.71	4,670	6-21	1930	6.70	3,020
3-16	1230	6.88	3,380				

SAN JOAQUIN RIVER BASIN

665

11-2680. SOUTH FORK MERCED RIVER NEAR EL PORTAL, CALIF.

LOCATION.--Lat 37°39'05", long 119°53'05", in NW¼NE¼ sec.29, T.3 S., R.19 E., on right bank 1,400 ft upstream from mouth and 6.2 miles west of El Portal.

DRAINAGE AREA.--241 sq mi.

RECORDS AVAILABLE.--November 1950 to September 1967.

GAGE.--Digital water-stage recorder. Altitude of gage is 1,400 ft (from topographic map). Prior to Dec. 9, 1963, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--16 years, 340 cfs (246,100 acre-ft per year); median of yearly mean discharges, 280 cfs (203,000 acre-ft per year).

EXTREMES.--Maximum discharge during year, 11,100 cfs Dec. 6 (gage height, 12.71 ft); minimum daily, 7.1 cfs Oct. 1.

1950-67: Maximum discharge, 46,500 cfs Dec. 23, 1955 (gage height, 18.70 ft), from rating curve extended above 8,000 cfs on basis of slope-area measurement at gage height 17.63 ft; minimum, 2.2 cfs Aug. 26, 27, 1961.

REMARKS.--Records good. Big Creek ditch diverts up to 60 cfs at times into Fresno River basin. Diversion of 0.5 cfs at Wawona for domestic use and irrigation of golf course.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	7.1	9.7	168	130	735	216	623	631	1,410	2,390	184	51
2	7.2	9.7	619	125	535	223	626	678	1,220	2,250	169	53
3	7.6	9.5	1,230	123	442	242	600	744	1,220	1,960	159	54
4	7.9	9.2	364	123	392	241	677	813	1,470	1,760	147	55
5	8.3	9.2	1,960	125	372	209	732	786	1,650	1,530	133	53
6	8.4	11	7,470	117	356	212	738	777	1,350	1,340	123	52
7	8.3	24	2,190	109	347	208	1,210	991	1,650	1,290	113	47
8	8.1	27	971	113	340	221	1,000	1,300	1,830	1,140	106	44
9	8.1	20	651	108	330	236	845	1,540	1,860	1,030	100	42
10	8.2	18	515	110	335	239	798	1,510	1,900	538	96	42
11	8.0	17	428	111	349	345	817	1,130	1,940	886	96	41
12	7.9	16	366	118	344	1,070	751	965	1,880	502	92	39
13	7.7	18	330	120	338	1,100	741	910	1,810	841	88	37
14	8.0	15	302	122	325	798	766	1,020	1,710	820	84	36
15	8.6	15	274	124	291	693	778	1,340	1,810	795	84	35
16	8.7	62	242	126	272	5,320	704	1,770	2,000	771	85	34
17	9.1	112	227	126	258	2,940	687	2,150	2,250	622	104	33
18	9.2	45	221	121	251	1,740	993	2,340	2,400	561	146	43
19	9.2	31	215	116	252	1,280	996	2,460	2,230	510	103	69
20	9.2	200	212	113	242	1,050	957	2,750	2,320	446	83	55
21	9.2	175	200	272	231	923	919	3,170	2,610	357	75	46
22	9.2	162	182	440	228	904	889	3,400	2,410	384	69	42
23	9.6	112	172	297	224	842	829	3,440	2,220	351	64	42
24	9.7	69	162	346	220	763	834	3,240	2,340	328	61	51
25	9.7	55	158	371	238	695	782	3,070	2,360	319	62	53
26	9.5	47	160	324	216	638	786	2,850	2,280	258	123	55
27	9.2	44	136	339	216	596	894	2,620	2,260	269	89	48
28	9.2	316	146	342	211	732	826	2,420	2,260	253	70	46
29	9.5	706	150	763	-----	751	709	2,170	2,400	239	61	48
30	9.7	281	144	1,110	-----	630	643	2,080	2,470	213	55	45
31	9.7	-----	130	1,270	-----	636	-----	1,780	-----	209	51	-----
TOTAL	269.0	2,645.3	20,695	8,254	8,890	26,693	24,150	56,845	59,520	26,042	3,075	1,391
MEAN	8.68	88.2	668	266	318	861	805	1,834	1,984	840	99.2	46.4
MAX	9.7	706	7,470	1,270	735	5,320	1,210	3,440	2,610	2,390	184	69
MIN	7.1	9.2	130	108	211	208	600	631	1,220	209	51	33
AC-FT	534	5,250	41,050	16,370	17,630	52,940	47,900	112,800	118,100	51,650	6,100	2,760

CAL YR 1966: TOTAL 96,571.6 MEAN 265 MAX 7,470 MIN 5.7 AC-FT 191,500
WAT YR 1967: TOTAL 238,469.3 MEAN 653 MAX 7,470 MIN 7.1 AC-FT 473,000

Peak discharge (base, 2,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-06	1500	12.71	11,100	5-22	2215	10.22	4,560
1-30	2315	8.76	2,080	6-21	2200	9.69	3,630
3-16	1500	11.99	8,970				

SAN JOAQUIN RIVER BASIN

11-2682. MERCED RIVER NEAR BRICEBURG, CALIF.

LOCATION.--Lat 37°38'06", long 119°56'00", in NW¼NE¼ sec.36, T.3 S., R.18 E., on left bank 150 ft upstream from Feliciana Creek and 2.8 miles northeast of Briceburg.

DRAINAGE AREA.--691 sq mi.

RECORDS AVAILABLE.--September 1965 to September 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is 1,194.98 ft above mean sea level.

EXTREMES.--Maximum discharge during year, 21,500 cfs Dec. 6 (gage height, 17.79 ft); minimum daily, 29 cfs for many days in October and November.

1965-67: Maximum discharge, 21,500 cfs Dec. 6, 1966 (gage height, 17.79 ft); minimum daily, 29 cfs for many days in October and November 1966.

REMARKS.--Records good. No regulation. Small diversions above station (see REMARKS for sta. no. 2680).

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	33	29	589	379	1580	600	1570	1500	4,470	8,390	1,100	311
2	32	29	999	371	1,180	620	1,590	1,520	3,790	8,590	1,000	305
3	32	29	2,170	367	985	672	1,500	1,730	3,670	7,800	970	311
4	33	29	350	363	380	660	1,640	1,390	4,480	6,590	940	327
5	33	29	3,150	359	845	585	1,740	1,350	4,940	6,130	900	330
6	32	32	13,900	348	824	585	1,730	1,370	4,200	5,150	820	341
7	32	50	5,050	334	310	575	2,500	2,360	5,030	5,070	740	302
8	32	59	2,380	341	817	620	2,200	3,210	5,770	4,580	660	275
9	32	46	1,670	324	310	666	1,930	4,160	6,030	4,190	580	255
10	30	44	1,400	324	345	690	1,350	4,000	6,100	3,750	520	240
11	30	41	1,110	327	373	349	1,890	3,020	6,400	3,540	510	225
12	29	39	936	348	373	1,980	1,760	2,550	6,230	3,670	520	208
13	29	43	373	355	373	2,240	1,760	2,400	5,890	3,920	495	192
14	29	40	792	363	838	1,700	1,820	2,600	5,700	3,960	500	173
15	29	39	702	371	732	1,470	1,360	3,470	6,120	3,720	590	170
16	30	99	678	379	672	7,940	1,590	4,770	6,790	3,350	625	164
17	30	220	654	379	660	6,490	1,710	5,320	7,400	3,050	744	158
18	30	121	630	371	648	4,260	2,230	6,540	8,380	2,620	1,110	182
19	30	79	620	355	554	3,190	2,270	7,000	8,510	2,420	763	245
20	30	312	605	348	625	2,730	2,210	7,960	8,110	2,110	575	230
21	30	391	590	640	610	2,360	2,150	9,480	9,000	1,890	530	200
22	29	308	545	820	605	2,270	2,100	10,500	8,910	1,320	448	184
23	30	248	520	640	605	2,160	1,940	11,200	7,930	1,720	444	173
24	30	170	500	680	590	1,960	1,950	10,300	7,960	1,600	435	184
25	30	137	466	700	615	1,800	1,820	10,400	8,350	1,570	792	190
26	29	124	453	690	580	1,680	1,790	9,610	8,040	1,560	936	190
27	29	119	403	710	585	1,560	1,990	9,000	8,000	1,470	672	172
28	29	431	399	780	580	1,840	1,880	8,030	7,950	1,370	500	164
29	29	2,030	427	1,500	---	1,870	1,560	6,750	8,360	1,480	411	164
30	29	948	427	2,000	---	1,630	1,560	6,440	8,310	1,300	359	158
31	29	---	391	2,460	---	1,620	---	5,540	---	1,200	327	---
Total	940	6,315	44,884	18,726	21,794	59,372	56,390	169,070	201,320	110,680	20,521	6,733
Mean	30.3	210	1,443	604	778	1,931	1,880	5,422	6,711	3,570	662	224
Max	33	2,030	13,900	2,460	1,580	7,940	2,600	11,200	9,000	8,990	1,110	341
Min	29	29	391	324	580	575	1,500	1,500	3,670	1,200	327	158
Ac-ft	1,860	12,530	89,030	37,140	43,230	118,800	111,800	333,400	399,300	219,500	40,700	13,350

Cal yr 1966: Total 308,952 Mean 846 Max 13,900 Min 29 Ac-ft 612,800
Wtr yr 1967: Total 716,245 Mean 1,962 Max 13,900 Min 29 Ac-ft 1,421,000

Peak discharge (base, 5,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-06	1500	17.79	21,500	5-23	0100	13.85	13,100
3-16	1400	13.64	12,700	6-22	0100	12.64	10,900

667

LOCATION.--Lat 37°42'58", long 120°11'20", in SE $\frac{1}{4}$ sec.34, T.2 S., R.16 E., on Dogtown road bridge, 0.4 mile downstream from Cuneo Creek, and 0.5 mile northeast of Coulterville.

RECORDS AVAILABLE.--October 1959 to September 1967.

AVERAGE DISCHARGE.--8 years, 7.13 cfs (5,160 acre-ft per year).

EXTREMES.--Maximum discharge during year, 1,220 cfs Apr. 7 (gage height, 5.48 ft); no flow for many days.
1959-67: Maximum discharge, 1,770 cfs Dec. 22, 1964 (gage height, 5.71 ft), from rating curve extended
above 720 cfs; no flow for many days in each year.

REMARKS.--No diversion or storage above station.

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

REVISIONS (water years).--1965 report: 1960(M), 1962(M).

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	0.80	0.80	2.2	1.2	1.6	2.4	3.8	1.0	0.20	0
2		0	3.2	.80	1.3	1.0	2.3	2.1	3.2	.90	.20	.10
3		.10	5.6	.80	9.8	1.0	1.8	2.0	3.0	.80	.20	.10
4		0	2.0	.80	7.4	1.0	4.5	1.8	2.8	.80	.20	.10
5		0	50	.70	6.1	.80	9.3	1.7	3.2	.80	.10	.10
6		.20	31.3	.70	5.2	.80	220	1.4	2.8	.80	.10	.10
7		.10	2.2	.70	4.6	.90	4.96	1.3	2.4	.80	.10	.10
8		.10	9.2	.70	4.6	.90	10.7	1.2	2.2	.80	.10	.10
9		.10	6.1	.70	3.9	.80	5.4	1.1	2.1	.80	.10	.10
10		.10	4.0	.70	3.4	.60	4.7	1.8	1.9	.70	.10	.10
11		.10	3.5	.70	3.2	4.6	110	1.1	2.1	.60	.10	.10
12		.10	3.0	.60	3.2	4.40	8.3	9.7	2.1	.50	.10	.10
13		.10	2.3	.60	2.8	2.96	5.8	9.6	1.9	.50	.10	.10
14		.20	2.2	.60	2.6	1.39	4.0	3.5	1.9	.50	0	.10
15		.20	2.0	.70	2.6	5.7	5.1	8.3	1.9	.60	0	.10
16		.50	1.6	.70	2.3	1.90	4.3	6.8	1.8	.50	0	.10
17		.30	1.4	.70	2.0	6.6	4.9	6.4	1.6	.50	0	.10
18		.30	1.4	.60	1.9	2.9	2.90	6.4	1.6	.40	0	.20
19		.50	1.1	.50	1.8	1.7	1.86	5.7	1.6	.50	0	.20
20		2.1	1.0	.50	1.8	1.1	1.34	5.0	1.6	.40	0	.20
21		1.1	.90	3.6	1.7	3.1	1.81	5.5	1.5	.40	0	.10
22		4.9	.80	3.4	1.4	6.7	1.70	5.4	1.4	.40	0	.10
23		1.6	.80	6.7	1.5	5.9	1.52	5.4	1.4	.30	0	.10
24		1.0	.70	2.5	1.4	4.8	1.44	4.7	1.3	.30	0	.10
25		.70	.80	1.3	3.1	3.9	.95	4.5	1.3	.30	0	.10
26		.60	1.1	8.2	2.0	3.7	6.6	3.8	1.1	.30	0	.10
27		.50	.80	5.3	1.6	3.2	5.2	3.8	1.0	.40	0	.10
28		.90	.80	5.3	1.3	4.0	4.0	3.8	1.1	.30	0	.10
29		.60	.80	9.1	-----	4.0	3.3	3.7	1.0	.20	.10	.10
30		.70	.80	1.27	-----	3.6	2.8	3.7	1.0	.20	.10	.10
31		-----	.80	6.9	-----	1.1	-----	4.2	-----	.20	0	-----
Total	0	17.70	449.50	407.70	118.2	1,317.50	3,313	294.7	57.6	16.50	1.90	3.20
Mean	0	0.59	14.5	13.2	4.22	42.5	104	9.51	1.92	0.53	0.06	0.11
Max	0	4.9	31.3	1.27	2.2	4.40	4.96	2.4	3.8	1.0	0.20	0.20
Min	0	0	0.70	0.50	1.3	0.60	.16	3.7	1.0	0.20	0	0
Ac-ft	0	35	392	80.9	234	2,610	6,210	585	114	33	3.8	6.3
Cal yr 1966: Total		1,110.5	Mean	3.04	Max	313	Min	0	Ac-ft	2,200		
Wtr yr 1967: Total		5,317.7	Mean	15.9	Max	4.96	Min	0	Ac-ft	11,540		

SAN JOAQUIN RIVER BASIN

11-2695. LAKE MCCLURE AT EXCHEQUER, CALIF.

LOCATION.--Lat 37°35'02", long 120°16'09", in NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec.13, T.4 S., R.15 E., on left end of New Exchequer Dam on Merced River, 0.9 mile east of Exchequer, and 5.5 miles northeast of Merced Falls.

DRAINAGE AREA.--1,037 sq mi.

RECORDS AVAILABLE.--April 1926 to September 1930 (daily gage heights; also summary of yearly contents in WSP 881), October 1930 to September 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is at mean sea level (levels by Merced Irrigation District). Prior to Oct. 1, 1964, indicator in powerhouse at same datum. Oct. 1, 1964, to July 31, 1966, staff gage at center of upstream face of dam at same datum.

EXTREMES.--Maximum contents observed during year, 991,600 acre-ft June 28, 30, July 1, 2 (elevation, 862.3 ft); minimum, 267,900 acre-ft Oct. 1-8, 13-18, 21 (elevation, 701.9 ft).

1926-67: Maximum contents, 991,600 acre-ft June 28, 30, July 1, 2, 1967 (elevation, 862.3 ft); practically no storage at times in 1926, 1930-31, 64-65 when reservoir was drained for inspection or construction.

REMARKS.--Reservoir is formed by a rock-fill dam with a reinforced concrete face, completed in March 1967. Dam is downstream from and connected to the original concrete arch and gravity-type dam which was completed in April 1926. Usable capacity, 1,024,000 acre-ft between elevations 440.0 (invert entrance to outlet tunnel) and 867.0 ft (top of spillway gates). Dead storage, 300 acre-ft. Water is released through a series of powerplants down the Merced River to a diversion dam of Merced Irrigation District's main canal. Records including extremes represent total contents at 2400 hours.

CAPACITY TABLE (ELEVATION, IN FEET, AND CONTENTS, IN ACRE-FT)

700	263,000
720	317,800
750	415,900
780	534,500
820	729,600
860	975,700

CONTENTS, IN THOUSANDS OF ACRE-FEET, AT 2400 HOURS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	267.9	268.5	281.0	390.5	452.6	497.8	659.5	768.2	863.8	991.6	923.4	806.0
2	267.9	268.5	282.9	391.6	456.1	499.1	663.6	764.8	861.9	991.6	920.1	802.5
3	267.9	268.5	283.9	392.3	458.8	500.3	666.6	761.4	860.0	990.2	917.5	793.9
4	267.9	268.5	291.3	393.0	461.1	501.5	669.7	758.0	859.4	986.8	913.6	795.4
5	267.9	268.5	300.5	393.7	463.1	502.8	674.3	754.1	863.8	984.0	909.7	791.9
6	267.9	268.5	336.4	394.3	465.0	503.6	681.6	749.6	866.9	979.2	905.8	789.0
7	267.9	260.5	351.1	395.0	467.0	504.8	697.3	746.2	871.9	975.1	902.5	785.5
8	267.9	268.5	356.9	395.7	468.5	505.7	705.3	744.0	878.2	969.6	898.6	782.0
9	268.2	268.5	360.5	396.1	470.5	506.9	710.6	743.4	885.8	962.8	894.1	779.1
10	268.2	268.5	363.4	396.8	472.1	508.2	715.5	743.4	889.0	955.4	890.3	775.7
11	268.2	268.5	365.7	397.5	474.0	511.1	722.0	741.8	893.5	948.0	885.8	772.2
12	268.2	268.5	367.6	398.2	476.0	521.6	727.4	737.9	900.6	948.6	883.3	769.4
13	267.9	268.5	369.6	398.9	477.6	534.1	731.8	734.0	907.7	948.6	879.5	766.0
14	267.9	268.5	371.3	399.6	479.6	541.9	735.7	730.7	913.6	949.3	875.1	762.5
15	267.9	268.5	372.6	400.3	481.2	546.7	740.1	729.6	920.8	950.0	871.3	759.7
16	267.9	268.5	374.3	401.0	482.4	570.9	744.0	732.4	928.7	952.0	867.5	756.3
17	267.9	268.7	375.6	401.3	483.6	588.3	747.3	739.5	934.0	952.7	863.8	753.5
18	267.9	269.0	376.6	402.0	485.2	598.6	758.6	746.8	941.3	952.0	860.6	750.1
19	268.2	269.2	378.0	402.7	486.4	605.2	766.5	754.6	952.7	951.3	857.5	747.3
20	268.2	269.5	379.3	403.8	487.6	611.9	770.5	764.2	962.8	949.3	853.2	744.5
21	267.9	270.5	380.3	405.2	489.9	617.1	775.7	776.8	975.1	948.6	849.5	741.8
22	268.2	271.3	381.7	408.0	490.1	621.5	779.7	789.6	982.6	947.3	845.2	739.0
23	268.2	271.8	382.7	410.2	491.3	623.7	783.2	802.5	985.4	945.3	840.9	736.2
24	268.2	272.4	383.7	413.4	492.5	630.7	784.9	814.9	986.8	943.3	836.6	733.5
25	268.2	272.6	384.7	416.3	494.1	634.1	783.8	826.3	987.4	940.6	833.6	731.3
26	268.2	272.9	385.4	418.4	494.6	637.6	782.0	836.0	988.1	939.3	830.0	728.5
27	268.2	273.1	386.4	420.6	495.4	641.0	780.3	845.2	989.5	937.9	826.3	725.8
28	268.2	273.4	387.1	422.4	496.6	644.5	778.6	852.0	991.6	935.3	822.1	723.6
29	268.5	277.6	387.8	427.9	-----	648.5	775.7	856.9	990.9	932.0	817.9	720.9
30	268.5	279.7	388.8	436.8	-----	652.0	772.2	861.3	991.6	929.3	813.7	718.2
31	268.5	-----	389.9	447.3	-----	655.5	-----	863.8	-----	926.7	809.6	-----
(+)	702.1	706.4	742.6	758.5	771.0	805.9	827.6	842.9	862.3	352.7	834.0	817.9
(*)	+8.000	+11.200	+110.200	+57.400	+49.300	+158.900	+116.700	+91.600	+127.800	-64.900	-117.100	-91.400
Max	268.500	279.700	389.900	447.300	496.600	655.500	784.900	863.800	991.600	991.600	923.400	806.000
Min	267.900	268.500	281.000	390.500	452.600	497.800	659.500	729.600	859.400	926.700	809.600	718.200

Calendar year 1966..... † +279,600 Max 393,000 Min 104,200
 Water year 1966-67..... † +450,500 Max 991,600 Min 267,900

† Elevation, in feet, at end of month.

* Change in contents, in acre-feet.

SAN JOAQUIN RIVER BASIN

669

11-2709. MERCED RIVER BELOW MERCED FALLS DAM, NEAR SNELLING, CALIF.

LOCATION.--Lat 37°31'15", long 120°19'55", in SE¼SW¼ sec.4, T.5 S., R.15 E., on right bank 0.15 mile south of Merced Falls, 0.25 mile downstream from Merced Falls Dam, and 5.5 miles east of Snelling.

DRAINAGE AREA.--1,061 sq mi.

RECORDS AVAILABLE.--April 1901 to September 1967. Records for water years 1914-16 incomplete, yearly estimates published in WSP 1315-A. Published as "near Merced Falls" 1901-13; 1923-26, as "at Exchequer" 1916-64, and as "at Merced Falls" 1965. Records at present site are about equivalent when adjusted for diversion to North Side Canal and change in contents of Lake McClure.

GAGE.--Digital water-stage recorder. Datum of gage is 310.55 ft above mean sea level. Apr. 6, 1901, to Nov. 30, 1913, staff gage at site 2 miles upstream at different datum. Nov. 22, 1915, to Apr. 28, 1922, staff gage and Apr. 29 to Oct. 24, 1922, graphic water-stage recorder at site 8 miles upstream at different datum. Oct. 25, 1922, to Sept. 30, 1964, graphic water-stage recorder at site 7 miles upstream at different datum.

AVERAGE DISCHARGE.--66 years, 1,332 cfs (964,300 acre-ft per year), adjusted for diversion to North Side Canal and change in contents of Lake McClure since 1965.

EXTREMES.--Maximum discharge during year, 9,980 cfs June 28 (gage height, 12.54 ft); minimum daily, 6.6 cfs Dec. 14.

1901-13, 1915-67: Maximum discharge observed, 47,700 cfs Jan. 31, 1911 (gage height, 23.3 ft, site and datum then in use); no flow for part of Nov. 21, 1901.

REMARKS.--Records good. Merced Falls Dam diverts water to North Side Canal to irrigate 4,100 acres below station. Flow regulated by Exchequer powerplant and Lake McClure since 1926.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	
1	35	34	36	37	25	125	128	3,920	4,980	9,160	3,070	2,220	
2	36	33	40	38	19	122	128	3,790	4,830	9,140	2,550	1,920	
3	38	32	40	38	16	63	465	3,970	4,940	9,110	2,460	1,920	
4	48	32	36	38	17	46	591	4,270	4,930	9,660	2,380	1,920	
5	79	32	42	55	26	42	588	4,300	3,540	7,500	2,540	1,920	
6	42	33	70	37	38	38	615	4,290	2,790	8,270	2,570	1,930	
7	39	34	58	34	41	85	574	4,290	2,760	7,600	2,530	1,930	
8	40	34	25	34	39	93	434	4,540	2,850	7,770	2,320	1,830	
9	40	33	7.0	34	39	89	467	4,640	2,780	7,740	2,440	1,780	
10	40	34	7.0	36	39	76	602	4,670	4,670	7,640	2,480	1,780	
11	61	35	6.8	38	39	70	684	4,520	4,890	7,250	2,480	1,780	
12	70	34	6.7	38	39	109	610	4,660	2,950	3,640	2,350	1,790	
13	48	35	6.7	35	39	191	607	4,700	2,910	3,620	2,500	1,710	
14	61	36	6.6	39	39	166	603	4,690	3,150	3,660	2,480	1,680	
15	61	35	53	41	37	128	609	4,080	3,140	3,550	2,440	1,680	
16	59	36	74	39	37	251	607	3,560	3,130	2,700	2,440	1,680	
17	59	36	42	41	39	209	614	2,990	4,950	2,700	2,420	1,680	
18	59	34	40	42	40	87	718	3,380	4,930	2,720	2,430	1,650	
19	58	34	43	38	40	126	718	3,510	3,310	2,770	2,430	1,640	
20	58	34	27	43	40	125	2,050	3,520	3,140	2,880	2,430	1,640	
21	58	32	27	40	39	124	2,810	3,510	3,060	2,620	2,450	1,580	
22	49	35	38	40	39	239	2,900	4,200	5,030	2,520	2,450	1,530	
23	36	35	40	41	73	328	2,920	4,910	6,960	2,550	2,450	1,500	
24	33	34	39	62	36	359	3,360	4,940	7,520	2,520	2,420	1,470	
25	32	34	38	50	46	373	3,820	4,910	8,220	2,540	2,440	1,450	
26	35	33	38	43	42	111	3,890	4,820	8,370	2,450	2,440	1,430	
27	41	34	38	39	41	129	3,900	4,930	7,160	2,550	2,460	1,390	
28	38	34	69	37	39	130	3,850	4,930	7,220	2,470	2,470	1,340	
29	35	43	38	62	-----	129	3,940	4,930	9,120	2,460	2,460	1,330	
30	34	44	36	106	-----	129	3,940	4,940	9,140	2,530	2,330	1,350	
31	33	-----	36	49	-----	128	-----	4,800	-----	2,610	2,440	-----	
TOTAL	1,455	1,040	1,103.8	1,344	1,043	4,420	47,742	134,110	147,370	147,080	76,590	50,450	
MEAN	46.9	34.7	35.6	43.4	37.3	143	1,591	4,326	4,912	4,745	2,471	1,682	
MAX	79	44	74	106	73	373	3,940	4,940	9,140	9,160	3,070	2,220	
MIN	32	32	6.6	34	16	38	128	2,990	2,760	2,450	2,320	1,330	
Ac-ft	2,890	2,060	2,190	2,670	2,070	8,770	94,690	266,000	292,300	291,700	151,900	100,100	
(†)	446	293	50	60	56	54	242	2,660	3,735	4,483	4,501	3,671	
Mean ‡	134	229	1,329	978	926	2,729	3,557	5,859	7,123	3,761	639	208	
Ac-ft‡	11,340	13,560	112,400	60,130	51,430	167,700	211,600	360,300	423,800	231,300	39,300	12,370	
Cal yr 1966: Total	187,497.7	Mean	514	Max	1,730	Min	3.4	Ac-ft	371,900	Mean ‡	932	Ac-ft ‡	675,000
Wtr yr 1967: Total	613,747.8	Mean	1,682	Max	9,160	Min	6.6	Ac-ft	1,217,000	Mean ‡	2,342	Ac-ft ‡	1,695,000

† Diversion, in acre-feet, to North Side Canal; furnished by Merced Irrigation District.

‡ Adjusted for change in contents in Lake McClure and diversion to North Side Canal.

SAN JOAQUIN RIVER BASIN

11-2712.9. MERCED RIVER AT SHAFFER BRIDGE, NEAR CRESSEY, CALIF.

LOCATION.--Lat 37°27'16", long 120°36'28", in NW¼SW¼ sec.36, T.5 S., R.12 E., near center of span on downstream side of county road bridge, 0.6 mile upstream from Dry Creek, and 4.0 miles northeast of Cressey.

DRAINAGE AREA.--1,117 sq mi.

RECORDS AVAILABLE.--October 1965 to September 1967 (low flow only).

GAGE.--Graphic water-stage recorder. Altitude of gage is 120 ft (from topographic map).

REMARKS.--Records good. Most water released from Lake McClure (see sta. nos. 2695 and 2709) is diverted upstream into the Main Canal of Merced Irrigation District. Flow past station consists of releases from diversion dam, irrigation return flow, and tributary inflow. No records computed above 200 cfs.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	12	16	27	32	-	37	37	-	-	-	-	-
2	12	16	29	32	120	35	33	-	-	-	-	-
3	12	15	35	30	77	37	33	-	-	-	-	176
4	12	14	49	30	53	41	32	-	-	-	-	145
5	11	14	49	30	47	36	95	-	-	-	-	148
6	11	16	123	29	40	30	133	-	-	-	-	145
7	14	13	-	29	37	30	-	-	-	-	-	162
8	13	13	-	28	36	29	-	-	-	-	-	180
9	13	13	142	27	59	26	-	-	-	-	-	145
10	14	19	93	27	48	25	-	-	-	-	-	111
11	13	20	64	26	40	30	-	-	-	-	-	114
12	12	20	48	26	40	52	-	-	-	-	-	129
13	12	20	41	26	40	65	-	-	-	-	-	142
14	13	20	36	26	44	-	-	-	-	-	-	119
15	14	20	33	26	39	-	-	-	-	-	-	85
16	14	23	32	25	39	151	-	-	-	-	-	85
17	16	24	30	25	38	-	-	-	-	-	-	92
18	17	26	40	24	37	-	-	-	-	-	-	92
19	13	26	46	24	36	120	-	-	-	-	-	102
20	20	26	43	24	37	105	-	-	-	-	-	105
21	23	27	43	26	36	130	-	-	-	-	-	119
22	21	26	41	33	36	128	-	-	-	-	-	116
23	21	28	37	33	35	87	-	-	-	-	-	100
24	23	30	36	39	35	77	-	-	-	-	-	119
25	21	28	37	48	37	53	-	-	-	-	-	102
26	21	26	37	60	43	71	-	-	-	-	-	94
27	20	25	36	62	41	91	-	-	-	-	-	94
28	18	25	34	53	35	43	-	-	-	-	-	92
29	18	25	34	58	-----	34	-	-	-	-	-	87
30	16	26	33	67	-----	37	-	-	-	-	-	82
31	15	-----	32	-----	-----	39	-----	-----	-----	-----	-----	-----
Total	490	655	-	-	-	-	-	-	-	-	-	-
Mean	15.8	21.8	-	-	-	-	-	-	-	-	-	-
Max	23	30	-	-	-	-	-	-	-	-	-	-
Min	11	14	27	24	35	25	32	-	-	-	-	82
Ac-ft	970	1,300	-	-	-	-	-	-	-	-	-	-
(†)	0	0	0	1,230	1,100	1,580	19,000	86,100	104,400	120,000	112,400	85,190

Calendar year 1966: Total - Mean - Max - Min - Ac-ft -
 Water year 1966-67: Total - Mean - Max - Min - Ac-ft -

† Diversion in acre-feet, to Main Canal near diversion dam, near Merced Falls; furnished by Merced Irrigation District.

SAN JOAQUIN RIVER BASIN

671

11-2713.2. DRY CREEK NEAR SNELLING, CALIF.

LOCATION.--Lat 37°33'17", long 120°27'48", in NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.30, T.4 S., R.14 E., on left bank, 650 ft downstream from Fields Road, and 3.8 miles northwest of Snelling.

DRAINAGE AREA.--67.6 sq mi.

RECORDS AVAILABLE.--October 1966 to September 1967.

GAGE.--Graphic water-stage recorder. Altitude of gage is 230 ft (from topographic map).

EXTREMES.--Maximum discharge during year, 4,930 cfs Apr. 21 (gage height, 14.79 ft); no flow for part of year.

REMARKS.--Records good except those for period of no gage-height record, which are poor. Small weir upstream from gage regulates storage for stock pond and irrigation pumping.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	0.80	77	0.80	12	15	0	0	0	0
2			1.2	.70	35	.80	11	12	1.8	0	0	0
3			1.3	.70	22	.70	13	11	1.0	0	0	.20
4			2.1	.70	16	.70	7.5	9.8	.30	0	0	.10
5			4.1	.60	12	.70	159	9.1	.20	0	0	.10
6			476	.70	9.8	.70	194	8.2	.10	0	0	.10
7			70	.70	7.9	.70	1140	7.0	.10	0	.20	.10
8			22	.70	6.6	.70	196	6.1	.10	0	.10	0
9			11	.70	5.6	.70	72	5.5	.10	0	.10	0
10			6.8	.70	5.0	.70	55	5.5	.10	.40	0	0
11			4.7	.70	4.5	100	848	5.5	0	.30	0	0
12			3.5	.70	4.0	400	105	4.8	0	.20	0	0
13			2.9	.70	3.5	424	52	4.0	0	.10	0	0
14			2.2	.70	3.0	201	32	3.5	0	.10	.10	0
15			2.1	.70	2.5	49	63	3.2	0	.20	.10	.10
16			1.8	.70	2.0	338	99	2.8	0	1.2	.10	.30
17			1.6	.70	1.5	83	36	2.1	0	.40	0	.20
18			1.5	.70	1.0	36	858	.50	1.9	.20	1.3	1.0
19			1.3	.70	1.0	22	448	.30	2.1	.10	.40	.40
20			1.2	.70	.90	15	246	.20	1.7	.10	.10	.10
21			1.1	.90	.90	13	1290	.10	1.2	1.0	.10	.10
22			1.0	49	.90	10	440	.10	.40	2.3	.10	.10
23			1.0	14	.90	8.3	336	.10	.20	.40	0	.80
24			1.0	275	.90	6.6	347	.10	.10	.20	0	3.0
25			1.0	62	5.0	5.6	106	.10	.10	.10	0	2.3
26			1.0	20	4.0	4.5	59	.10	.10	.10	0	1.2
27			1.0	11	3.0	4.0	40	0	.10	.10	0	.20
28			.90	8.5	2.0	3.7	29	0	.10	.10	0	.40
29			.80	396	-----	3.4	22	0	.10	.10	0	4.2
30			.80	621	-----	3.7	18	0	0	.10	0	3.2
31		-----	.80	331	-----	4.7	-----	0	-----	0	0	-----
Total	0	0	664.60	1802.60	238.40	1742.70	7333.5	116.70	11.90	7.80	2.70	18.20
Mean	0	0	21.4	58.1	8.51	56.2	244	3.76	0.40	0.25	0.09	0.61
Max	0	0	476	621	77	424	1290	15	2.1	2.3	1.3	4.2
Min	0	0	0	0.70	0.90	0.70	7.5	0	0	0	0	0
Ac-ft	0	0	1320	3580	473	3460	14550	231	24	15	5.4	36

Cal yr 1966: Total - Mean - Max - Min - Ac-ft -
 Wtr yr 1967: Total 11,939.10 Mean 32.7 Max 1,290 Min 0 Ac-ft 23,680

Peak discharge (base, 50 cfs)

Peak discharge (base, 50 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-06	0800	8.28	1,020	1-30	1900	10.23	1,960	4-05	0500	6.31	338	4-18	0600	10.86	2,320
1-22	0700	5.49	143	3-12	1500	10.25	1,980	4-07	0200	13.40	3,690	4-21	2000	14.79	4,930
1-24	1000	8.11	980	3-13	2100	11.08	2,450	4-11	0300	12.33	3,200	4-23	2200	9.80	1,750
1-29	1100	9.59	1,640	3-16	1200	7.94	916	4-15	2200	5.81	212				

Note.--No gage-height record Feb. 11 to Mar. 13.

SAN JOAQUIN RIVER BASIN

11-2725. MERCED RIVER NEAR STEVINSON, CALIF.

LOCATION.--Lat 37°22'15", long 120°55'45", in SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec.36, T.6 S., R.9 E., on right bank 5 miles upstream from mouth and 6 miles northwest of Stevinson.

DRAINAGE AREA.--1,273 sq mi.

RECORDS AVAILABLE.--October 1940 to September 1967.

GAGE.--Digital water-stage recorder. Datum of gage is at mean sea level. October 1940 to Aug. 16, 1955, graphic water-stage recorder at datum 55.74 ft higher, Aug. 16, 1955, to Sept. 30, 1959, graphic water-stage recorder at datum 54.74 ft higher, and Sept. 30, 1959, to Apr. 16, 1965, graphic water-stage recorder at same datum.

AVERAGE DISCHARGE.--27 years, 678 cfs (490,900 acre-ft per year).

EXTREMES.--Maximum discharge during year, 6,510 cfs July 4 (elevation, 69.41 ft); minimum daily, 55 cfs Nov. 3, 4.

1940-67: Maximum discharge, 13,600 cfs Dec. 5, 1950 (elevation, 73.79 ft, present datum); no flow July 19 to Aug. 21, 1961, result of temporary dam below station.

REMARKS.--Records good. Practically entire flow is diverted above station for irrigation of 120,000 acres; some return flow enters above station. Flow regulated by Lake McClure (see sta. no. 2895).

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	64	72	90	110	574	105	186	3,440	2,580	6,370	672	603
2	58	57	96	108	380	104	195	3,400	2,700	6,460	966	654
3	65	55	97	109	283	103	210	3,320	2,640	6,450	696	505
4	60	55	94	109	206	104	187	3,340	2,680	6,480	654	452
5	59	58	109	109	156	101	180	3,390	2,710	6,460	579	372
6	66	62	134	110	142	109	209	3,460	2,200	5,730	606	351
7	68	73	197	110	147	102	311	3,440	1,640	5,860	702	342
8	88	74	351	112	162	91	1,050	3,430	1,500	5,390	711	335
9	93	73	270	112	167	101	804	3,420	1,510	5,430	609	362
10	79	69	231	110	142	103	589	3,430	1,540	5,430	560	376
11	66	69	194	111	113	117	544	3,410	2,200	5,340	562	397
12	62	67	170	113	105	117	1,270	3,320	2,670	5,140	555	356
13	74	73	150	114	103	131	925	3,330	1,940	2,960	542	316
14	85	76	141	114	102	288	751	3,390	1,490	2,190	532	293
15	95	71	133	115	102	495	670	3,380	1,430	2,100	568	289
16	91	75	128	116	102	388	594	2,870	1,420	1,940	540	313
17	80	75	122	117	102	447	612	2,320	1,330	1,320	530	325
18	71	75	120	117	101	561	606	1,880	2,270	1,140	560	329
19	76	77	119	117	102	452	1,010	1,780	2,700	1,140	542	314
20	79	87	118	118	102	351	1,390	1,840	1,950	1,100	588	309
21	80	89	117	121	102	280	1,960	1,780	1,550	972	615	319
22	71	85	116	126	98	257	3,110	1,800	1,360	942	606	347
23	67	85	115	127	92	231	3,310	2,180	2,230	693	600	338
24	73	90	114	140	92	215	3,220	2,670	3,860	774	636	313
25	70	86	115	190	96	179	3,560	2,710	4,840	813	660	329
26	77	86	113	279	96	200	3,660	2,670	5,300	765	660	324
27	83	92	110	207	97	189	3,650	2,580	5,620	642	702	306
28	75	95	111	166	104	199	3,530	2,610	4,920	588	738	309
29	74	91	112	141	-----	157	3,410	2,600	5,100	609	723	320
30	80	82	111	147	-----	126	3,440	2,550	5,940	597	705	296
31	78	-----	111	342	-----	171	-----	2,590	-----	636	681	-----
TOTAL	2,307	2,274	4,309	4,237	4,170	6,574	45,143	88,330	81,820	92,461	19,600	10,794
MEAN	74.4	75.8	139	137	149	212	1,505	2,849	2,727	2,983	632	360
MAX	95	95	351	342	574	561	3,660	3,460	5,940	6,480	966	654
MIN	58	55	90	108	92	91	180	1,780	1,330	588	530	289
AC-FT	4,580	4,510	8,550	8,400	8,270	13,040	89,540	175,200	162,300	183,400	38,880	21,410

CAL YR 1966: TOTAL 56,952 MEAN 156 MAX 4,280 MIN 34 AC-FT 113,000
 WAT YR 1967: TOTAL 362,019 MEAN 992 MAX 6,480 MIN 55 AC-FT 718,100

SAN JOAQUIN RIVER BASIN

673

11-2730. MERCED RIVER SLOUGH NEAR NEWMAN, CALIF.

LOCATION.--Lat 37°21'36", long 121°57'37", in NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.3, T.7 S., R.9 W., on left bank 0.1 mile downstream from bridge, 0.2 mile downstream from head of slough between Merced and San Joaquin Rivers, and 5 miles northeast of Newman.

RECORDS AVAILABLE.--October 1941 to September 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is at mean sea level. Prior to July 31, 1948, at datum 56.44 ft higher and Aug. 1, 1948, to Sept. 30, 1959, at datum 54.36 ft higher.

AVERAGE DISCHARGE.--26 years, 58.7 cfs (42,500 acre-ft per year).

EXTREMES.--Maximum discharge during year, 827 cfs Apr. 27; no flow for many months.

1941-67: Maximum daily discharge, 7,770 cfs Apr. 6, 1958; no flow for several months in each year.

REMARKS.--Records fair except those below 20 cfs, which are poor. Sloughs flow from Merced River to San Joaquin River, bypassing the gaging station on San Joaquin River near Newman. Flow at times consists of return flow from irrigated fields. Records include flow in South Slough.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							0	530	24	170	0.25	0
2							0	518	29	193	0	0
3							0	450	33	205	0	0
4							0	451	35	215	0	0
5							0	450	38	221	0	0
6							0	445	35	132	0	.76
7							0	414	23	143	0	.99
8							0	387	17	95	0	0
9							0	308	15	100	0	0
10							0	252	14	105	.06	0
11							0	199	19	.102	.31	0
12							0	150	30	82	0	1.6
13							0	133	21	18	0	2.7
14							0	156	10	5.7	0	.24
15							0	142	6.3	4.9	0	0
16							0	78	4.4	4.4	0	0
17							0	38	3.1	3.6	0	0
18							0	24	1.9	3.1	0	0
19							0	16	2.3	2.4	1.5	0
20							0	13	1.9	1.8	3.8	0
21							0	11	1.4	1.1	.69	0
22							7.5	9.6	1.2	.45	0	0
23							77	9.5	1.0	.07	0	0
24							287	17	9.4	0	0	0
25							562	19	41	0	0	0
26							727	19	61	0	0	0
27							825	18	112	0	0	0
28							694	18	45	0	2.8	0
29							504	17	61	2.0	1.9	0
30							514	17	106	5.2	1.2	0
31							-----	21	-----	1.9	.04	-----
Total	0	0	0	0	0	0	4197.5	5330.1	801.9	1817.62	12.55	6.29
Mean	0	0	0	0	0	0	140	172	26.7	58.6	0.40	0.21
Max	0	0	0	0	0	0	825	530	112	221	3.8	2.7
Min	0	0	0	0	0	0	0	9.5	1.0	0	0	0
Ac-ft	0	0	0	0	0	0	8330	10570	1590	3610	25	12

Cal yr 1966: Total 76.80 Mean 0.21 Max 9.4 Min 0 Ac-ft 152
Wtr yr 1967: Total 12165.96 Mean 33.3 Max 825 Min 0 Ac-ft 24130

SAN JOAQUIN RIVER BASIN

11-2740. SAN JOAQUIN RIVER NEAR NEWMAN, CALIF.

LOCATION.--Lat 37°21'02", long 120°58'34", in SW $\frac{1}{4}$ sec.3, T.7 S., R.9 E., on left bank 300 ft downstream from bridge on Hills Ferry road, 500 ft downstream from Merced River, and 3.5 miles northeast of Newman.

DRAINAGE AREA.--9,524 sq mi.

RECORDS AVAILABLE.--April 1912 to September 1967. Prior to Oct. 1, 1937, and subsequent to Oct. 1, 1943, flow that bypassed station at discharges above 9,000 cfs not included in records.

GAGE.--Digital water-stage recorder. Datum of gage is at mean sea level. Prior to Mar. 3, 1931, staff gages at various sites within 240 ft from bridge and Oct. 1, 1959, to Aug. 9, 1960, graphic water-stage recorder at site 70 ft upstream at datum 47.31 ft higher. Aug. 9, 1960, to July 16, 1965, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--55 years, 2,049 cfs (1,483,000 acre-ft per year).

EXTREMES.--Maximum discharge during year, 15,400 cfs Apr. 27 (elevation, 64.41 ft); minimum daily, 137 cfs Oct. 12.

1912-67: Maximum discharge, 33,000 cfs Mar. 7, 1938 (elevation, 65.81 ft, present site and datum), including flow in Merced River Slough; minimum, 15 cfs Aug. 9, 10, 1924.

REMARKS.--Records good. Natural flow of stream affected by storage reservoirs, ground-water withdrawals, diversions for irrigation, and imported water; low flows consist mainly of return water from irrigated areas. Record for Merced River Slough (see sta. no. 2730) shows flow bypassing station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	161	223	339	417	3,000	473	654	14,300	10,600	7,950	1,040	1,050
2	160	221	344	414	3,500	442	700	14,200	10,900	8,160	1,210	1,080
3	157	219	363	412	3,400	430	827	14,000	11,000	8,290	1,120	941
4	152	217	389	409	3,200	425	1,150	13,800	11,100	8,390	1,040	872
5	161	221	464	478	3,000	411	1,260	13,700	11,300	8,460	951	837
6	151	236	562	540	3,000	419	1,220	13,700	11,200	8,230	1,020	832
7	147	267	783	560	3,500	420	1,740	13,500	10,700	8,180	1,090	791
8	160	279	1,560	585	3,590	399	2,730	13,400	10,400	8,200	1,090	749
9	163	271	2,430	594	3,650	402	3,320	13,000	10,200	8,410	1,010	741
10	164	266	2,680	568	3,240	411	3,790	12,700	10,200	8,600	960	725
11	157	266	2,290	539	2,380	422	3,900	12,500	10,600	8,700	999	752
12	137	265	1,760	521	1,650	432	4,160	12,300	11,000	8,460	1,010	685
13	140	277	1,360	506	1,290	454	4,250	12,200	10,500	6,710	1,000	664
14	145	291	1,110	489	1,130	684	4,370	12,300	9,670	4,240	976	631
15	170	290	948	478	1,010	1,590	4,260	12,300	9,100	3,430	1,040	634
16	156	295	841	452	932	2,340	3,870	11,900	8,700	3,100	988	670
17	149	288	746	428	831	2,470	3,680	11,200	8,210	2,550	932	715
18	139	258	657	408	737	2,600	3,930	10,600	8,010	2,250	945	723
19	138	253	598	405	682	3,020	4,510	10,100	8,110	1,930	933	724
20	146	279	562	405	629	2,850	5,400	9,810	7,580	1,890	958	727
21	162	309	553	414	595	2,160	6,470	9,620	6,700	1,850	1,050	695
22	169	330	547	465	563	1,550	9,320	9,540	5,920	1,650	1,030	679
23	176	357	544	483	542	1,140	12,100	9,570	5,720	1,310	982	677
24	199	350	544	545	542	934	13,500	9,960	6,760	1,270	1,000	658
25	185	344	521	656	527	789	14,600	10,100	7,760	1,270	1,060	701
26	191	337	493	897	503	755	15,100	10,100	8,140	1,200	1,070	724
27	228	338	463	1,120	488	730	15,400	10,000	8,520	1,090	1,110	712
28	219	337	447	1,360	492	700	15,000	10,000	7,870	1,010	1,160	707
29	201	347	438	1,230	-----	650	14,300	10,100	7,730	1,100	1,130	674
30	205	333	433	1,140	-----	601	14,300	10,200	7,600	1,030	1,110	660
31	220	-----	423	1,630	-----	628	-----	10,300	-----	1,020	1,110	-----
TOTAL	5,208	8,564	26,192	19,548	48,603	31,731	189,811	361,000	271,800	139,930	32,124	22,430
MEAN	168	285	845	631	1,736	1,024	6,327	11,650	9,060	4,514	1,036	748
MAX	228	357	2,680	1,630	3,650	3,020	15,400	14,300	11,300	8,700	1,210	1,080
MIN	137	217	339	405	488	399	654	9,540	5,720	1,010	932	631
AC-FT	10,330	16,990	51,950	38,770	96,400	62,940	376,500	716,000	539,120	277,500	63,720	44,490

CAL YR 1966: TOTAL 168,772 MEAN 462 MAX 5,930 MIN 137 AC-FT 334,800
WAT YR 1967: TOTAL 1,156,941 MEAN 3,170 MAX 15,400 MIN 137 AC-FT 2,295,000

SAN JOAQUIN RIVER BASIN

675

11-2745. ORESTIMBA CREEK NEAR NEWMAN, CALIF.

LOCATION.--Lat 37°19'09", long 121°07'12", on line between secs.17 and 20, T.7 S., R.8 E., at left bank pier of county road bridge, 3 miles downstream from Oso Creek, and 5 miles west of Newman.

DRAINAGE AREA.--134 sq mi.

RECORDS AVAILABLE.--January 1932 to September 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is 188.86 ft above mean sea level, adjustment of 1929. Prior to Oct. 1, 1958, at site 120 ft downstream at datum 3.00 ft higher.

AVERAGE DISCHARGE.--35 years, 14.8 cfs (10,710 acre-ft per year); median of yearly mean discharges, 8.0 cfs (5,800 acre-ft per year).

EXTREMES.--Maximum discharge during year, 4,200 cfs Jan. 24 (gage height, 7.50 ft); no flow for several months. 1932-67: Maximum discharge, 10,200 cfs Apr. 2, 1958 (gage height, 6.57 ft, site and datum then in use), from rating curve extended above 5,000 cfs; no flow for several months in each year.

REMARKS.--Records good. No storage or diversion except for minor stock ponds. Records of suspended-sediment loads for the water year 1967 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	0	203	7.1	56	41	3.3	0		
2			0	0	124	7.1	38	36	5.0	0		
3			0	0	81	7.1	29	33	4.5	0		
4			0	0	56	7.1	25	32	3.6	0		
5			29	0	41	5.7	23	30	3.6	0		
6			365	0	38	5.7	25	29	4.5	0		
7			104	0	33	5.0	81	28	5.7	0		
8			35	0	29	5.0	93	26	7.1	0		
9			18	0	25	4.5	69	23	5.0	0		
10			11	0	21	4.0	52	28	4.0	0		
11			4.7	0	19	6.4	86	25	3.0	.10		
12			1.1	0	17	14	76	21	3.0	.20		
13			0	0	16	70	56	18	3.0	.30		
14			0	0	14	105	45	16	2.7	0		
15			0	0	11	53	41	15	2.4	0		
16			0	0	11	524	45	13	1.9	0		
17			0	0	11	320	36	11	1.7	0		
18			0	0	11	155	77	11	1.6	0		
19			0	0	11	102	78	8.5	1.4	0		
20			0	0	9.7	72	95	8.5	1.2	0		
21			0	0	7.8	54	184	7.8	1.1	0		
22			0	561	7.8	43	239	6.4	.90	0		
23			0	92	8.5	33	180	4.5	.90	0		
24			0	1580	8.5	26	180	5.0	.90	0		
25			0	508	9.2	20	128	5.0	.90	0		
26			0	172	7.8	18	102	4.5	.90	0		
27			0	90	7.8	16	86	3.6	.60	0		
28			0	48	7.8	13	69	3.6	.60	0		
29			0	87	-----	12	58	3.0	.50	0		
30			0	740	-----	13	47	2.7	.20	0		
31			0	467	-----	66	-----	2.7	-----	0		
Total	0	0	567.8	4,345	846.9	1,793.7	2,399	501.8	75.90	0.50	0	0
Mean	0	0	18.3	140	30.2	57.9	80.0	16.2	2.53	0.02	0	0
Max	0	0	365	1,580	203	524	239	41	7.1	0.30	0	0
Min	0	0	0	0	7.8	4.0	23	2.7	0.20	0	0	0
Ac-ft	0	0	1,130	8,620	1,680	3,560	4,760	995	151	1.2	0	0

Cal yr 1966: Total 1032.00 Mean 0.28 Max 365 Min 0 Ac-ft 2050
Wtr yr 1967: Total 10530.70 Mean 28.9 Max 1580 Min 0 Ac-ft 20890

Peak discharge (base, 50 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-06	1400	6.65	760	3-16	1300	5.80	1,320
1-22	0500	6.79	1,920	3-31	0700	4.20	95
1-24	1000	7.50	4,200	4-11	0900	4.24	105
1-30	1400	6.35	2,300	4-22	1200	4.71	275

SAN JOAQUIN RIVER BASIN

11-2746. DEL PUERTO CREEK TRIBUTARY NO. 1 NEAR PATTERSON, CALIF.

LOCATION.--Lat 37°24'15", long 121°26'10", in NE $\frac{1}{4}$ sec.21, T.6 S., R.5 E., at culvert on county road, 300 ft upstream from Del Puerto Creek, and 17.5 miles southwest of Patterson.

DRAINAGE AREA.--0.71 sq mi.

RECORDS AVAILABLE.--Water years 1959-63 (annual maximum), October 1963 to September 1967.

GAGE.--Graphic water-stage recorder, crest-stage gage, and tipping-bucket rain gage. Altitude of gage is 1,760 ft (from topographic map). Oct. 2, 1958, to Oct. 22, 1963, crest-stage gage at same site at datum 85.20 ft lower.

EXTREMES.--Maximum discharge during year, 16 cfs Jan. 21 (gage height, 8.35 ft); no flow for most of year. 1958-67: Maximum discharge, 20 cfs Feb. 1, 1963 (gage height, 8.53 ft, present datum), from rating curve extended above 7 cfs on basis of computations of flow through culvert at gage heights 8.36, 8.50, 8.85, and 9.40 ft; no flow for most of each year.

REMARKS.--Records fair. No regulation or diversion above station.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0.10	0	0.40	0	0.50	0.30				
2			.20	0	.30	0	.40	.30				
3			.30	0	.30	0	.40	.30				
4			.40	0	.20	0	.40	.30				
5			.50	0	.20	0	.40	.30				
6			.70	0	.20	0	.50	.20				
7			.20	0	.20	0	.50	.20				
8			.10	0	.20	0	.50	.20				
9			0	0	.10	0	.40	.20				
10			0	0	.10	0	.50	.20				
11			0	0	.10	.20	.50	.10				
12			0	0	.10	.30	.50	.10				
13			0	0	.10	.70	.40	.10				
14			0	0	.10	.50	.40	.10				
15			0	0	.10	.40	.40	.10				
16			0	0	.10	4.6	.40	0				
17			0	0	0	1.3	.40	0				
18			0	0	0	.80	.50	0				
19			0	0	0	.60	.50	0				
20			0	0	0	.50	.50	0				
21			0	1.7	0	.50	.60	0				
22			0	1.1	0	.50	.50	0				
23			0	.20	0	.40	.60	0				
24			0	1.0	0	.40	.50	0				
25			0	.50	0	.40	.50	0				
26			0	.30	0	.40	.50	0				
27			0	.20	0	.30	.50	0				
28			0	.20	0	.30	.40	0				
29			0	.40	-----	.30	.40	0				
30			0	.90	-----	.50	.40	0				
31		-----	0	.50	-----	.50	-----	0	-----			-----
Total	0	0	2.50	7.00	2.80	14.40	13.90	3.00	0	0	0	0
Mean	0	0	0.08	0.23	0.10	0.46	0.46	0.10	0	0	0	0
Max	0	0	.70	1.7	.40	4.6	.60	.30	0	0	0	0
Min	0	0	0	0	0	0	.40	0	0	0	0	0
Ac-ft	0	0	5.0	14	5.6	29	23	6.0	0	0	0	0
(†)	0	4.6	2.2	6.1	0.1	5.9	3.5	0.2	0.5	0	0	0

Calendar year 1966: Total 2.70 Mean 0.007 Max 0.70 Min 0 Ac-ft 5.4
 Water year 1966-67: Total 43.60 Mean 0.12 Max 4.6 Min 0 Ac-ft 86

† Precipitation, in inches.

SAN JOAQUIN RIVER BASIN

677

11-2746.3. DEL PUERTO CREEK NEAR PATTERSON, CALIF.

LOCATION.--Lat 37°29'15", long 121°12'25", in SE¼NW¼ sec.21, T.5 S., R.7 E., on left bank 1.0 mile upstream from Delta-Mendota Canal crossing, and 4.4 miles west of Patterson.

DRAINAGE AREA.--73.1 sq mi.

RECORDS AVAILABLE.--October 1958 to May 1965 (maximums only), June 1965 to September 1967.

GAGE.--Graphic water-stage recorder and concrete control. Altitude of gage is 200 ft (from topographic map). Prior to June 1965, crest-stage gage at site 1.0 mile downstream at different datum.

EXTREMES.--Maximum discharge during year, 946 cfs Jan. 22 (gage height, 6.72 ft), from rating curve extended above 250 cfs; no flow for several months.
1958-67: Maximum discharge, 1,800 cfs Feb. 18, 1959 (gage height, 14.68 ft, site and datum then in use), from rating curve extended above 690 cfs; no flow for several months in each year.

REMARKS.--Records good. Some stock ponds and small diversions above station.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	0.60	41	3.4	20	16	5.2	0.30		
2			0	.60	28	3.1	16	14	6.8	.20		
3			0	.60	21	3.1	13	13	7.2	.10		
4			0	.60	17	2.9	12	12	6.4	.10		
5			.30	.80	13	2.9	11	12	6.0	.10		
6			38	.80	10	2.7	12	12	8.7	.10		
7			25	.80	9.2	2.4	24	10	6.8	.10		
8			8.2	.60	8.2	2.2	32	9.7	6.4	.10		
9			4.3	.60	7.2	2.2	22	10	5.2	.10		
10			3.6	.60	6.8	1.8	17	12	4.9	0		
11			2.9	.60	6.4	3.8	21	9.7	4.9	0		
12			2.2	.50	6.0	6.5	19	9.2	4.9	0		
13			1.8	.50	5.6	29	16	7.7	4.9	.20		
14			1.8	.60	4.9	35	16	7.2	4.6	.10		
15			1.6	.60	4.6	16	14	6.8	4.3	0		
16			1.6	.60	4.6	211	13	6.4	4.1	0		
17			1.4	.60	4.6	81	11	6.4	3.6	0		
18			1.4	.60	4.3	40	14	6.4	2.7	0		
19			1.4	.60	4.3	29	16	6.0	2.7	0		
20			1.3	.80	4.1	22	17	6.0	2.4	0		
21			.90	4.7	4.1	20	25	6.0	2.2	0		
22			.90	247	4.1	17	31	5.2	2.0	0		
23			.90	40	3.8	16	28	4.9	1.6	0		
24			.90	204	3.8	13	27	5.2	1.3	0		
25			.90	103	4.1	12	22	4.9	1.3	0		
26			1.1	45	3.8	12	20	5.2	1.1	0		
27			.90	33	3.6	11	19	6.0	.90	0		
28			.80	27	3.6	9.2	17	6.0	.80	0		
29			.60	34	-----	9.2	17	6.0	.50	0		
30			.80	144	-----	11	16	6.0	.40	0		
31		-----	.80	90	-----	23	-----	6.0	-----	0		-----
Total	0	0	106.30	984.50	241.7	653.4	558	253.9	114.80	1.50	0	0
Mean	0	0	3.43	31.8	8.63	21.1	18.6	8.19	3.83	0.05	0	0
Max	0	0	39	247	41	211	32	16	8.7	0.30	0	0
Min	0	0	0	0.50	3.6	1.8	11	4.9	0.40	0	0	0
Ac-ft	0	0	211	1,950	479	1,300	1,110	504	229	3.0	0	0

Cal yr 1966: Total 341.10 Mean 0.93 Max 38 Min 0 Ac-ft 677
Wtr yr 1967: Total 2,914.10 Mean 7.98 Max 247 Min 0 Ac-ft 5,780

Peak discharge (base, 50 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-06	1900	2.48	75	1-30	1600	4.43	403
1-22	0300	6.72	946	3-16	1200	4.88	501
1-24	1500	4.25	366				

SAN JOAQUIN RIVER BASIN

11-2747.1. MACLURE CREEK BELOW MACLURE GLACIER, NEAR TUOLUMNE MEADOWS, CALIF.
(International hydrological decade station)

LOCATION.--Lat 37°45'09", long 119°16'52", in T.2 S., R.24 E., in middle of stream 650 ft above large unnamed lake, 2.3 miles upstream from mouth, and 9.3 miles south of Tuolumne Meadows, Yosemite National Park.

DRAINAGE AREA.--0.37 sq mi.

RECORDS AVAILABLE.--May to September 1967.

GAGE.--Graphic water-stage recorder and concrete control. Altitude of gage is 11,520 ft (from topographic map).

EXTREMES.--Maximum discharge during period May to September, 28 cfs July 28 (gage height, 2.64 ft); minimum daily, 0.01 cfs June 5, 6.

REMARKS.--Records fair. No storage or diversion above station. This station measures the outflow from Maclure Glacier in Yosemite National Park.

DISCHARGE, IN CUBIC FEET PER SECOND, MAY TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1								-	0.23	7.6	8.2	5.3
2								-	.08	8.2	8.0	4.7
3								-	.04	8.4	9.2	5.5
4								-	.02	8.8	8.6	5.6
5								-	.01	9.4	8.0	5.5
6								-	.01	8.7	7.0	4.5
7								-	.02	7.6	5.9	4.1
8								-	.04	6.6	5.1	3.9
9								-	.13	5.6	5.2	3.4
10								-	.18	5.1	6.2	2.5
11								-	.44	5.4	6.7	2.1
12								-	.51	6.3	7.2	2.2
13								-	.51	7.9	7.8	2.5
14								-	.50	8.5	7.6	2.5
15								-	.69	7.2	6.4	2.2
16								-	1.0	7.3	7.4	2.0
17								-	1.4	6.8	9.3	2.1
18								-	1.9	6.7	9.6	1.9
19								-	2.7	7.2	6.7	1.6
20								-	2.2	6.4	5.7	1.5
21								-	2.8	6.2	6.2	1.4
22								-	3.2	6.4	6.2	1.4
23								.80	2.7	6.1	5.9	1.4
24								.84	3.3	6.5	6.0	1.2
25								.87	3.9	7.3	6.4	1.1
26								.89	4.0	8.6	5.8	1.3
27								.94	4.4	8.2	5.3	2.0
28								.89	4.8	14	4.6	2.2
29								.76	5.6	15	4.5	2.0
30					- - - - -			.60	6.8	9.6	5.2	1.8
31		- - - - -			- - - - -		- - - - -	.45	- - - - -	8.8	5.6	- - - - -
Total								-	54.11	242.4	206.5	81.4
Mean								-	1.80	7.82	6.66	2.71
Max								-	6.8	15	9.3	5.6
Min								-	0.01	5.1	4.5	1.1
Ac-ft								-	107	481	410	161

Cal yr 1966: Total - Mean - Max - Min - Ac-ft -
Wtr yr 1967: Total - Mean - Max - Min - Ac-ft -

Peak discharge (base, 10 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
7-04	2330	1.89	11	7-28	2130	2.64	28
7-14	0030	1.84	10	8-17	2100	1.96	12
7-26	2130	1.87	10				

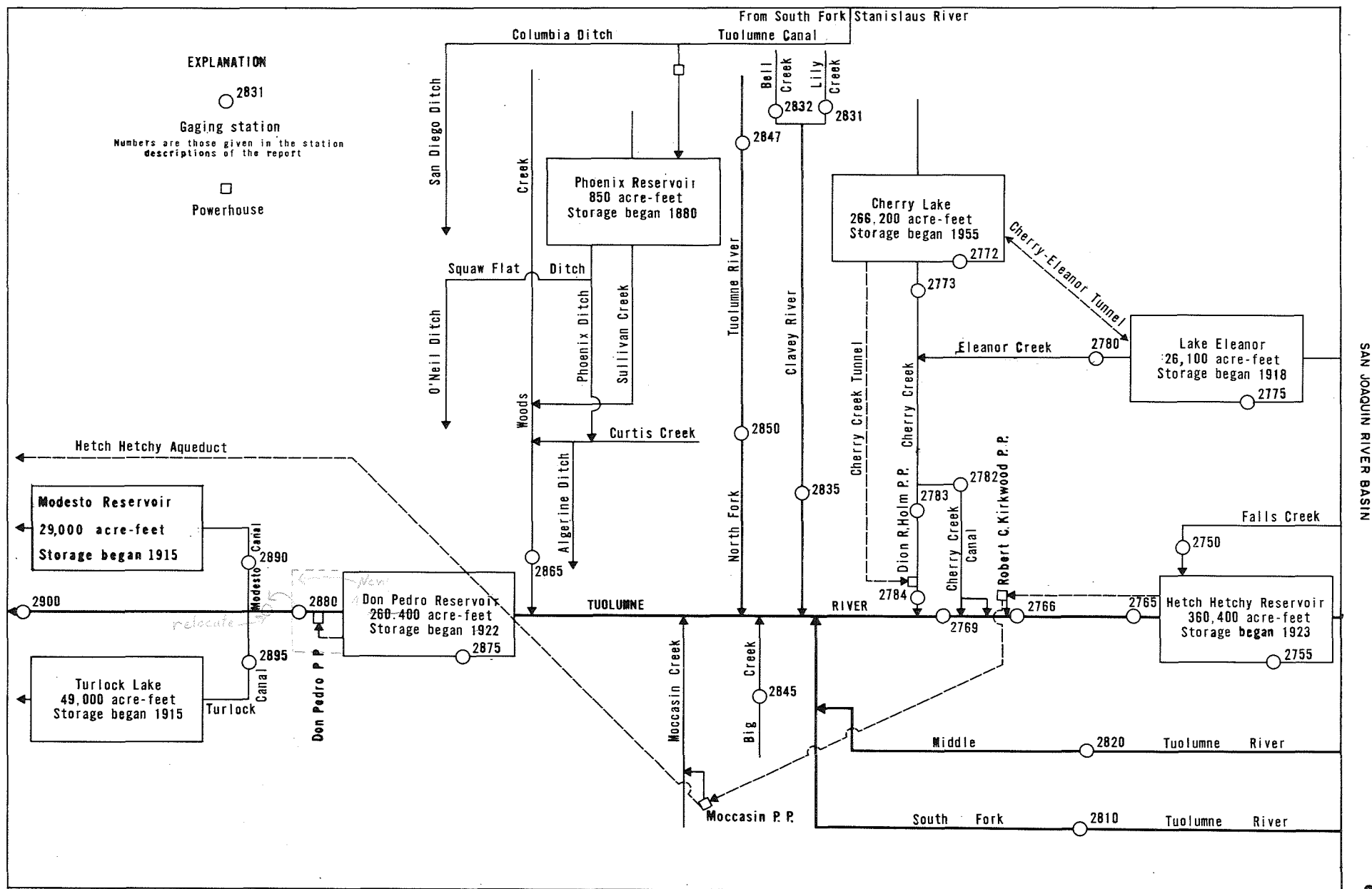


Figure 4—Schematic diagram showing diversions and storage in Tuolumne River basin

SAN JOAQUIN RIVER BASIN

11-2750. FALLS CREEK NEAR HETCH HETCHY, CALIF.

LOCATION.--Lat 37°58'15", long 119°45'45", in SE $\frac{1}{4}$ sec.3, T.1 N., R.20 E., on right bank in Yosemite National Park, 0.2 mile upstream from Wampana Falls, 0.6 mile upstream from mouth, and 2 miles northeast of Hetch Hetchy.

DRAINAGE AREA.--46.0 sq mi.

RECORDS AVAILABLE.--October 1915 to September 1967. Monthly discharge only for some periods, published in WSP 1315-A. Prior to Oct. 1, 1918, published as "near Sequoia."

GAGE.--Graphic water-stage recorder. Altitude of gage is 5,350 ft (from topographic map).

AVERAGE DISCHARGE.--52 years, 142 cfs (102,800 acre-ft per year).

EXTREMES.--Maximum discharge during year, 1,880 cfs Dec. 6 (gage height, 6.70 ft); no flow Oct. 1 to Nov. 15. 1915-67: Maximum discharge, 6,660 cfs Nov. 19, 1950, Dec. 23, 1955 (gage height, 9.0 ft, from floodmarks), from rating curve extended above 2,500 cfs on basis of velocity-area studies; no flow at times in many summers.

REMARKS.--Records good. No regulation or diversion above station. See schematic diagram of Tuolumne River basin.

COOPERATION.--Gage-height record and eight discharge measurements furnished by city and county of San Francisco.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	188	38	75	66	81	64	340	1,350	215	29
2		0	275	39	71	68	76	83	242	1,370	178	26
3		0	258	39	70	75	72	110	208	1,320	161	27
4		0	141	39	72	68	70	122	340	1,200	147	30
5		0	339	40	78	58	69	129	476	1,080	127	27
6		0	1,420	37	80	57	67	175	385	964	107	24
7		0	702	35	84	61	69	255	465	964	91	21
8		0	275	33	88	72	66	343	608	872	79	18
9		0	165	33	88	80	70	385	705	782	68	16
10		0	132	33	96	78	72	367	715	695	66	15
11		0	110	35	93	69	70	320	760	635	69	13
12		0	96	37	91	66	70	232	675	680	67	12
13		0	90	40	91	59	70	202	630	720	62	10
14		0	80	44	86	69	76	232	660	770	60	9.0
15		0	78	46	70	74	76	322	800	735	60	8.2
16		20	79	47	62	250	71	462	926	695	68	7.5
17		31	80	44	60	430	70	612	1,060	580	78	6.9
18		17	80	43	65	300	70	735	1,160	520	87	8.2
19		15	80	40	67	225	69	800	1,230	440	76	8.2
20		78	79	44	59	200	66	860	1,010		90	9.2
21		65	72	61	58	188	63	1,090	1,120	382	75	8.2
22		48	64	56	59	175	60	1,200	1,210	373	59	8.5
23		36	59	54	59	151	59	1,220	1,030	352	52	7.8
24		31	55	52	57	125	59	1,150	985	343	51	6.9
25		26	53	60	58	112	57	1,110	1,090		76	6.9
26		25	50	66	55	97	60	1,040	1,190	322		
27		28	52	66	55	99	67	985	1,120	290	115	6.1
28		259	55	68	59	112	60	902	1,100	272	76	5.7
29		580	44	84	---	110	60	730	1,100	275	54	5.3
30		335	42	90	---	96	59	650	1,230	268	43	5.2
31		---	39	82	---	87	---	508	1,300	245	35	5.3
Total	0	1,594	5,332	1,525	2,006	3,777	2,024	17,395	24,770	20,483	2,623	391.1
Mean	0	53.1	172	49.2	71.6	122	67.5	561	826	661	84.6	13.0
Max	0	580	1,420	90	96	430	81	1,220	1,300	1,370	215	30
Min	0	0	39	33	55	57	57	64	208	245	31	5.2
Ac-ft	0	3,160	10,580	3,020	3,980	7,490	4,010	34,500	49,130	40,630	5,200	776

Cal yr 1966: Total 38,966.6 Mean 107 Max 1,420 Min 0 Ac-ft 77,290
 Wtr yr 1967: Total 81,920.1 Mean 224 Max 1,420 Min 0 Ac-ft 162,500

Peak discharge (base, 900 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-6	1430	6.70	1,880	7-3	0600	6.50	1,650
5-22	2100	6.20	1,340				

11-2755. HETCH HETCHY RESERVOIR AT HETCH HETCHY, CALIF.

LOCATION.--Lat 37°56'55", long 119°47'10", in NW¼ sec.16, T.1 N., R.20 E., near center of O'Shaughnessy Dam on Tuolumne River at Hetch Hetchy in Yosemite National Park, 1.5 miles downstream from Falls Creek.

DRAINAGE AREA.--455 sq mi.

RECORDS AVAILABLE.--May 1923 to September 1967. Prior to October 1930 month-end contents, published in WSP 1315-A.

GAGE.--Graphic water-stage recorder. Datum of gage is at mean sea level (levels by city and county of San Francisco). Prior to Oct. 1, 1927, staff gage at same site and datum.

EXTREMES.--Maximum contents during year, 363,900 acre-ft July 14 (elevation, 3,807.8 ft); minimum, 68,200 acre-ft May 5, 6 (elevation, 3,611.4 ft).

1923-67: Maximum contents, 369,100 acre-ft Dec. 3, 1950 (elevation, 3,810.4 ft); no contents at times in 1929-31.

REMARKS.--Reservoir is formed by concrete gravity-type dam, completed to crest elevation 3,726.5 ft in 1923 and raised to 3,812.0 ft in 1937; storage began Apr. 6, 1923. Ten-foot drum gates were installed on spillway in 1949. Usable capacity, 360,400 acre-ft between elevations, 3,512.0 (somewhat above bottom outlet) and 3,806.0 ft (top of drum-type spillway gates) above mean sea level. Water is diverted from reservoir through tunnel to Robert C. Kirkwood powerplant 15 miles downstream where flow is diverted from powerplant tailrace in a closed conduit through Hetch Hetchy aqueduct to Moccasin Creek powerplant with flow in excess of aqueduct capacity being spilled to river. At Moccasin Creek diversion dam, water re-enters Hetch Hetchy aqueduct and flows into Crystal Springs Reservoir, which supplies city of San Francisco. Surplus water is spilled into Don Pedro Reservoir at Red Mountain Bar. Flow down river is for State Department of Fish and Game and Raker Act requirements. Hetch Hetchy Reservoir is main storage unit of Hetch Hetchy water-supply system for San Francisco. See schematic diagram of Tuolumne River basin.

COOPERATION.--Gage-height record furnished by city and county of San Francisco.

CAPACITY TABLE (ELEVATION, IN FEET, AND CONTENTS, IN ACRE-Feet)

3,512	0	3,540	8,700	3,640	97,000	3,740	238,900
3,513	51	3,560	22,900	3,660	119,900	3,760	273,700
3,515	154	3,580	39,500	3,680	146,200	3,780	310,400
3,520	410	3,600	57,400	3,700	175,000	3,800	348,600
3,530	3,300	3,620	76,500	3,720	206,000	3,810.4	369,100

CONTENTS, IN THOUSANDS OF ACRE-Feet, AT 2400 HOURS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	211.3	167.0	140.4	148.0	130.4	108.1	97.8	69.2	230.2	329.1	360.0	345.1
2	210.0	165.8	141.2	147.0	130.1	106.1	96.8	68.7	225.0	337.4	360.4	343.7
3	208.6	164.5	141.6	146.1	129.6	104.2	95.6	68.4	223.2	344.1	361.2	342.8
4	207.1	163.8	142.2	145.1	129.1	101.9	93.7	68.3	220.1	348.4	361.4	342.0
5	205.7	163.5	144.4	144.2	128.6	99.8	92.3	68.2	218.1	351.1	361.4	341.2
6	204.3	162.1	158.1	143.4	128.6	98.0	90.8	68.3	214.8	352.1	361.4	340.3
7	203.0	160.6	161.4	142.4	128.3	97.0	90.1	69.8	214.0	352.3	361.0	339.3
8	201.9	159.4	162.0	141.5	128.0	96.2	88.3	72.7	214.5	353.3	360.6	337.9
9	200.6	158.0	162.4	139.6	127.7	95.3	86.7	76.3	217.5	358.2	360.0	336.6
10	199.4	156.7	162.6	138.2	127.5	94.5	85.2	79.1	219.2	360.6	359.6	335.4
11	197.8	155.4	162.4	137.2	127.1	93.8	84.1	80.4	221.9	363.1	358.8	333.9
12	194.9	154.0	162.1	136.3	126.7	93.3	82.8	81.1	223.7	363.3	358.2	332.6
13	194.0	152.8	161.7	135.3	126.4	92.7	81.8	81.8	224.0	363.5	357.2	331.2
14	192.1	151.1	161.2	134.3	126.0	91.9	80.4	82.8	225.0	363.7	356.4	329.7
15	190.5	150.0	160.6	133.1	125.5	91.2	79.0	85.2	227.7	362.7	356.0	328.2
16	189.1	148.9	159.9	132.2	124.9	96.2	78.2	90.7	231.8	362.0	355.6	326.6
17	187.8	147.9	159.4	131.2	124.3	99.5	77.0	97.3	236.5	361.5	355.2	325.1
18	186.2	146.5	158.8	130.4	123.2	101.1	76.0	105.0	245.0	360.6	354.9	323.8
19	184.9	145.4	158.4	129.4	122.2	101.7	75.8	112.6	252.4	360.4	354.3	322.2
20	183.5	144.6	158.0	128.5	121.3	102.3	75.7	122.3	257.8	360.0	353.7	320.9
21	182.1	143.8	157.3	128.3	120.2	102.3	75.4	135.4	265.4	358.8	353.1	319.4
22	180.8	142.7	156.6	128.3	119.7	102.3	75.3	148.9	272.3	357.6	352.3	318.1
23	179.3	141.6	155.7	128.1	117.4	102.5	75.0	165.4	277.1	356.0	351.5	316.8
24	177.9	140.4	155.0	127.7	116.0	102.7	74.5	179.6	282.2	355.2	350.7	315.4
25	176.5	139.2	154.2	127.2	114.8	102.2	74.0	193.5	288.4	355.8	350.9	314.1
26	175.2	137.2	153.5	126.8	113.2	101.4	72.4	206.3	294.6	356.8	350.9	312.8
27	173.8	136.6	152.5	126.4	111.8	100.5	71.9	218.3	301.1	357.2	350.4	311.5
28	172.5	138.4	151.7	126.6	110.3	100.1	71.4	225.5	306.5	357.8	349.6	309.8
29	171.0	140.0	150.8	127.7	-----	99.9	70.6	230.3	313.4	359.2	348.4	308.3
30	169.7	140.5	149.8	129.4	-----	99.2	70.1	233.7	320.9	360.0	347.4	307.0
31	168.5	-----	148.9	130.3	-----	98.5	-----	234.0	-----	360.4	346.3	-----
(+)	3695.6	3675.8	3681.9	3668.1	3651.8	3641.3	3613.3	3737.1	3785.6	3806.0	3798.8	3778.2
(#)	-43.400	-28.000	+8.400	-18.600	-20.000	-11.800	-28.400	+163.900	+86.900	+39.500	-14.100	-39.300
Max	211.3	167.0	162.6	148.0	130.4	108.1	97.8	234.0	320.9	363.7	361.4	345.1
Min	168.5	136.6	140.4	126.4	110.3	91.2	70.1	68.2	214.0	329.1	346.3	307.0

Cal yr 1966. +70.000

Wat yr 1967. +95.100

† Elevation, in feet, at end of month.

Change in contents, in acre-feet.

Note.--July 12-19 computed from once-daily staff gage readings.

LOCATION.--Lat 37°56'15", long 119°47'50", in SW1SE1 sec.17, T.1 N., R.20 E., in Yosemite National Park, on left bank 1 mile downstream from O'Shaughnessy Dam at Hetch Hetchy and 2.5 miles downstream from Falls Creek.

RECORDS AVAILABLE.--October 1910 to September 1967. Monthly discharge only for some periods, published in WSP 1315-A. Published as "at Hetch Hetchy damsite, near Sequoia" 1910-14 and as "below Hetch Hetchy damsite, near Sequoia" 1915-18.

EXTREMES.--Maximum discharge during year, 6,160 cfs July 6 (gage height, 11.59 ft); minimum daily, 32 cfs Mar. 7.
1910-67: Maximum discharge, 12,900 cfs June 1, 1943 (gage height, 13.90 ft); minimum daily, 1.3 cfs Nov.
2, 3, 1923.

COOPERATION.--Gage-height record and 16 discharge measurements furnished by city and county of San Francisco.

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	259	684	783	762	637	717	273	68	4,010	5,850	1,050	69
2	828	684	789	759	753	708	271	66	3,960	5,940	397	256
3	741	665	792	759	774	699	490	73	2,290	5,980	112	263
4	738	296	789	756	774	687	753	78	3,880	6,020	298	67
5	738	68	614	753	771	679	744	78	3,820	6,080	324	66
6	735	786	492	768	528	370	738	78	3,800	6,140	290	66
7	744	756	501	771	771	32	747	79	3,740	6,020	184	66
8	744	747	705	768	771	45	726	80	3,740	4,920	84	67
9	744	744	762	771	668	41	711	83	3,330	2,310	60	214
10	753	750	762	762	771	41	699	89	3,820	2,660	59	248
11	756	753	762	759	771	43	696	80	3,880	2,820	62	72
12	756	750	759	756	771	55	684	75	3,910	4,090	69	63
13	753	762	759	756	771	135	679	72	3,930	4,550	469	67
14	750	768	759	768	768	265	670	69	3,940	5,130	332	69
15	747	765	759	774	768	270	665	69	3,960	5,000	69	69
16	747	753	756	771	765	321	656	69	4,020	4,620	68	214
17	750	753	765	768	762	284	726	72	4,100	4,300	68	232
18	756	771	771	765	879	284	789	72	4,200	3,770	68	44
19	753	774	771	759	950	282	783	72	4,310	2,590	68	43
20	750	774	771	661	828	282	783	75	4,380	2,560	68	35
21	750	774	771	783	759	281	777	75	4,440	2,560	68	40
22	747	771	768	786	756	281	780	79	4,620	2,560	68	35
23	744	768	768	777	747	276	774	81	4,700	2,560	68	52
24	744	765	765	786	744	273	774	84	4,710	2,140	68	51
25	741	768	762	777	738	273	762	87	4,740	1,350	69	40
26	738	768	762	774	735	271	517	89	4,840	1,050	70	38
27	735	765	759	771	729	273	76	1,280	4,920	1,050	70	38
28	735	774	756	771	723	273	74	2,350	5,260	1,050	70	39
29	723	780	756	795	- - - -	273	69	2,370	5,550	1,050	69	39
30	717	783	759	708	- - - -	273	70	2,380	5,710	1,050	69	39
31	696	- - - -	765	544	- - - -	273	- - - -	3,270	- - - -	1,050	69	- - - -
Total	22,612	21,519	23,012	23,438	21,182	9,260	17,956	13,642	126,510	108,820	4,957	2,701
Mean	729	717	742	756	756	299	599	440	4,217	3,510	160	90.0
Max	828	786	792	795	950	717	789	3,270	5,710	6,140	1,050	263
Min	259	68	492	544	528	32	69	66	2,290	1,050	59	35
Ac-ft	44,850	42,680	45,640	46,490	42,010	18,370	35,620	27,060	250,900	215,800	9,830	

Cal yr 1966: Total	313.832	Mean	860	Max	3110	Min	68	Ac-ft	622,500
Wtr yr 1967: Total	395.609	Mean	1,084	Max	6,140	Min	32	Ac-ft	784,700

SAN JOAQUIN RIVER BASIN

683

11-2769. TUOLUMNE RIVER BELOW EARLY INTAKE, NEAR MATHER, CALIF.

LOCATION.--Lat 37°52'50", long 119°58'10", in SW¼ sec.2, T.1 S., R.18 E., on left bank 0.6 mile upstream from Cherry Creek, 0.7 mile downstream from Robert C. Kirkwood powerplant and Hetch Hetchy aqueduct, and 6.3 miles west of Mather.

DRAINAGE AREA.--487 sq mi.

RECORDS AVAILABLE.--October 1966 to September 1967.

GAGE.--Graphic water-stage recorder. Altitude of gage is 2,200 ft (from topographic map).

EXTREMES.--Maximum discharge during year, 6,180 cfs July 5 (gage height, 8.43 ft); minimum daily, 13 cfs Nov. 18, 19, 25-27, Feb. 1.

REMARKS.--Records good. Flow regulated by Hetch Hetchy Reservoir (see sta. no. 2755) and Robert C. Kirkwood powerplant beginning April 26, 1967. Water is diverted to Hetch Hetchy aqueduct from the tailrace of the powerplant through a closed conduit. Flow in excess of aqueduct capacity is diverted to river. See schematic diagram of Tuolumne River basin.

COOPERATION.--Gage-height record and 41 discharge measurements furnished by city and county of San Francisco.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	156	76	24	22	13	809	500	455	4,010	4,880	1,040	147
2	82	74	134	19	73	802	500	460	3,970	4,700	746	97
3	37	70	154	28	112	781	509	485	2,330	4,900	183	257
4	36	103	139	26	86	809	1,010	490	3,790	5,420	269	120
5	34	63	580	25	79	802	870	475	3,640	5,780	375	156
6	24	89	698	26	108	703	718	450	3,640	5,550	210	148
7	21	69	133	27	14	237	783	460	3,550	5,520	310	159
8	31	37	163	25	65	222	1,040	485	3,720	4,740	216	145
9	15	19	178	37	62	191	1,030	490	3,360	2,510	170	97
10	21	16	137	31	16	182	901	596	3,710	2,470	171	210
11	35	17	148	28	56	231	867	506	3,740	2,870	160	170
12	34	17	127	26	51	311	787	455	3,760	3,640	164	153
13	34	15	96	24	62	351	577	435	3,870	4,260	168	146
14	31	28	64	19	65	278	922	425	3,810	4,660	614	143
15	18	34	45	31	69	304	797	440	3,810	4,680	163	146
16	17	36	39	43	60	979	546	422	3,830	3,920	147	100
17	22	14	34	42	57	631	659	342	3,920	4,010	156	246
18	31	13	44	36	138	614	791	445	4,080	3,520	159	165
19	30	13	55	34	227	566	274	445	4,200	2,820	156	139
20	29	16	51	23	167	431	216	420	4,200	2,640	127	136
21	25	22	47	63	194	542	219	385	4,300	2,610	165	134
22	37	28	43	187	294	317	219	348	4,360	2,570	165	135
23	61	16	41	107	364	258	210	358	4,480	2,490	163	91
24	72	14	26	145	385	223	240	370	4,500	2,340	163	52
25	70	13	26	119	375	485	442	338	4,520	1,520	164	156
26	66	13	24	102	361	460	1,070	334	4,560	1,060	157	137
27	64	13	34	107	332	460	524	1,100	4,580	1,070	131	136
28	62	17	29	104	402	500	500	2,360	4,780	1,080	169	138
29	68	26	27	326	- - - - -	530	440	2,380	5,060	1,030	168	144
30	89	24	25	233	- - - - -	495	435	2,700	5,000	936	167	95
31	96	- - - - -	23	76	- - - - -	506	- - - - -	3,240	- - - - -	1,040	166	- - - - -
Total	1,448	1,005	3,388	2,141	4,287	15,010	18,596	23,094	121,080	101,236	7,482	4,298
Mean	46.7	33.5	109	69.1	153	484	620	745	4,036	3,266	241	143
Max	156	103	698	326	402	979	1,070	3,240	5,060	5,780	1,040	257
Min	15	13	23	19	13	182	210	334	2,330	936	127	52
Ac-ft	2,870	1,990	6,720	4,250	8,500	29,770	36,880	45,810	240,200	200,800	14,840	8,520

Cal yr 1966 : Total - Mean - Max - Min - Ac-ft -
Wtr yr 1967 : Total 303,065 Mean 830 Max 5,780 Min 13 Ac-ft 601,100

SAN JOAQUIN RIVER BASIN

11-2772. CHERRY LAKE NEAR HETCH HETCHY, CALIF.

LOCATION.--Lat 37°58'30", long 119°53'45", in NW¼ sec.5, T.1 N., R.19 E., on upstream face of Cherry Valley Dam on Cherry Creek, 4.2 miles upstream from Eleanor Creek, 7 miles north of Early Intake, and 7.3 miles northwest of Hetch Hetchy.

DRAINAGE AREA.--117 sq mi.

RECORDS AVAILABLE.--August 1956 to September 1967. Prior to October 1959, published as Lake Lloyd near Hetch Hetchy.

GAGE.--Staff gage read once daily. Datum of gage is at mean sea level (levels by city and county of San Francisco).

EXTREMES.--Maximum contents during year, 268,800 acre-ft July 15 (elevation, 4,700.0 ft); minimum, 14,200 acre-ft Nov. 19 (elevation, 4,513.1 ft).

1956-67: Maximum contents, 269,300 acre-ft July 1-3, 1957 (elevation, 4,700.6 ft); minimum, 30 acre-ft Dec. 5, 1964 (elevation, 4,438.0 ft).

REMARKS.--Reservoir is formed by a rock-fill dam completed in 1956; storage began in December 1955. Usable capacity, 268,810 acre-ft between elevations 4,430 (bottom of sluice gates) and 4,700 ft (top of spillway gates) above mean sea level. Additional storage of 20 acre-ft is not available for release. Water is released down Cherry Creek for power development and domestic supply as part of Hetch Hetchy system of city and county of San Francisco. Unmeasured diversion from Lake Eleanor into Cherry Lake began Mar. 6, 1960. Diversion from Cherry Lake through tunnel to Cherry powerhouse near mouth of Cherry Creek began on Aug. 1, 1960. See schematic diagram of Tuolumne River basin.

COOPERATION.--Gage-height record furnished by city and county of San Francisco.

CAPACITY TABLE (ELEVATION, IN FEET, AND USABLE CONTENTS, IN ACRE-FEET)

4,440	0	4,540	38,900
4,450	75	4,560	60,800
4,460	250	4,580	85,100
4,470	675	4,600	111,800
4,480	1,530	4,620	139,900
4,490	3,020	4,640	169,700
4,500	6,030	4,660	201,100
4,510	11,700	4,680	234,100
4,520	19,700	4,700	268,800

CONTENTS, IN THOUSANDS OF ACRE-FEET, AT 0800 HOURS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	59.8	24.9	26.5	-	51.9	46.4	82.6	78.7	167.4	252.3	268.1	245.4
2	58.8	23.9	27.5	63.4	52.0	46.0	83.5	78.3	168.3	255.8	-	244.0
3	58.1	22.9	30.3	63.2	51.9	45.6	84.8	78.0	168.8	259.8	267.0	243.3
4	56.9	21.9	31.7	62.4	51.7	45.3	85.1	78.3	169.5	-	266.4	-
5	55.4	21.0	33.8	61.8	51.6	45.0	85.5	78.5	171.7	265.6	265.6	242.7
6	54.2	-	36.7	61.1	52.0	45.0	86.0	78.9	173.4	266.4	265.1	241.3
7	53.0	19.7	45.2	60.5	51.7	44.5	86.0	80.0	175.4	266.7	264.8	240.3
8	51.7	-	47.1	59.8	51.5	44.0	86.2	82.3	179.5	266.9	263.9	238.9
9	50.7	18.2	48.6	59.5	51.4	44.0	86.6	84.3	181.0	266.9	262.7	237.8
10	50.0	17.5	50.0	58.6	51.3	44.0	87.6	86.6	184.1	267.1	261.8	236.6
11	48.7	-	51.6	57.7	51.1	44.0	87.7	88.0	187.3	266.4	260.9	236.1
12	-	16.1	53.3	56.9	51.3	44.3	87.7	88.9	190.3	266.4	259.8	234.6
13	46.2	15.5	54.4	56.1	-	45.0	87.7	89.7	193.1	267.2	259.1	233.4
14	44.9	15.2	55.4	55.3	51.6	45.1	87.9	90.8	195.8	268.5	258.4	232.4
15	43.7	14.3	56.3	54.8	51.3	-	87.9	92.8	198.2	268.8	257.4	231.1
16	42.7	14.8	57.2	54.4	51.0	46.4	88.2	95.1	201.1	268.5	256.7	229.9
17	42.0	15.4	58.1	53.6	50.6	55.3	88.9	98.7	204.2	268.6	256.2	228.7
18	40.7	14.9	59.1	52.7	50.2	59.9	88.9	102.8	208.1	267.6	255.4	228.4
19	39.6	14.2	60.5	51.9	49.9	63.0	-	106.7	212.5	267.4	254.6	227.2
20	38.4	14.9	61.4	51.1	50.0	65.9	88.2	111.1	215.7	267.6	253.9	225.9
21	37.2	16.3	61.9	50.8	49.6	67.7	87.2	116.7	219.2	267.9	253.7	224.7
22	36.0	16.4	62.5	50.8	-	69.5	86.3	123.6	222.6	268.1	252.6	223.4
23	34.8	16.3	63.0	50.8	48.8	71.0	85.4	129.7	225.9	268.6	251.4	222.2
24	34.2	-	63.3	50.5	48.4	72.2	84.4	135.6	228.6	268.5	250.4	221.2
25	33.1	16.6	-	50.0	47.9	73.6	83.5	141.2	231.9	268.5	250.0	220.9
26	31.7	16.3	64.3	49.6	47.5	74.9	82.4	146.5	235.8	268.5	250.2	219.5
27	30.5	16.2	64.5	49.2	47.5	76.6	81.7	151.2	239.2	268.5	250.0	218.0
28	29.3	16.4	64.4	49.0	47.0	77.7	80.8	155.8	242.3	268.3	249.9	216.9
29	28.0	22.9	64.2	49.2	-----	79.5	79.8	159.7	245.9	268.1	248.8	215.7
30	26.9	22.5	63.9	50.6	-----	80.7	78.9	-	249.0	268.1	247.8	214.4
31	26.0	-----	63.7	51.6	-----	81.7	-----	165.8	-----	268.6	246.6	-----
(†)	4,526.8	4,526.3	4,562.4	4,551.8	4,547.6	4,577.2	4,575.0	4,637.4	4,688.7	4,699.9	4,687.3	4,668.2
(‡)	-35,200	-500	+38,200	-12,100	-4,600	+34,700	-1,800	+86,900	+83,200	+19,600	-22,000	-32,200
Max	59.8	25.5	64.5	-	52.0	81.7	82.6	165.8	249.0	268.8	268.1	245.4
Min	26.0	14.2	26.5	49.0	47.0	44.0	78.9	78.0	167.4	252.3	246.6	214.4

Cal yr 1966..... ± 56,200
Wat yr 1967..... ± 153,200

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-feet.

SAN JOAQUIN RIVER BASIN

685

11-2773. CHERRY CREEK BELOW CHERRY VALLEY DAM, NEAR HETCH HETCHY, CALIF.

LOCATION.--Lat 37°58'04", long 119°54'59", in SW $\frac{1}{4}$ sec.5, T.1 N., R.19 E., on right bank 0.7 mile downstream from Cherry Valley Dam, 3.5 miles upstream from Eleanor Creek, 6.7 miles north of Early Intake, and 7.2 miles west of Hetch Hetchy.

DRAINAGE AREA.--118 sq mi.

RECORDS AVAILABLE.--November 1956 to September 1967.

GAGE.--Graphic water-stage recorder and concrete control. Datum of gage is 4,337.08 ft above mean sea level (levels by city and county of San Francisco).

EXTREMES.--Maximum discharge during year, 1,180 cfs July 5, 6 (gage height, 7.36 ft); minimum daily, 5.0 cfs Jan. 15, June 8, 24.

1956-67: Maximum discharge, 3,830 cfs Apr. 25, 1958 (gage height, 9.95 ft); minimum daily, 1.6 cfs Apr. 10, 1957.

REMARKS.--Records good. Flow regulated by Cherry Lake (see sta. no. 2772). Diversion between Lake Eleanor and Cherry Lake began Mar. 8, 1960. Diversion from Cherry Lake to Cherry powerhouse began Aug. 1, 1960. See schematic diagram of Tuolumne River basin.

COOPERATION.--Gage-height record and six discharge measurements furnished by city and county of San Francisco.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	16	11	5.7	5.7	12	6.9	7.2	8.3	6.0	534	17	17
2	16	11	9.3	5.5	11	6.9	7.2	9.3	5.7	538	17	17
3	16	11	8.0	5.5	10	7.2	7.2	9.7	5.5	538	17	17
4	16	12	7.4	5.5	9.7	6.9	7.4	9.7	5.3	542	17	17
5	11	12	12	5.5	9.7	6.9	7.4	9.3	5.5	928	17	17
6	6.0	12	25	5.3	9.3	6.6	7.7	9.3	5.3	1,170	17	17
7	5.5	12	13	5.3	9.0	6.6	8.6	9.3	5.3	1,170	17	17
8	5.3	12	10	5.3	9.0	6.6	8.0	9.7	5.0	1,170	17	17
9	5.3	12	9.0	5.3	8.6	6.6	8.3	9.7	5.3	1,170	17	17
10	5.3	12	7.7	5.3	8.3	6.6	8.6	12	5.7	1,170	17	17
11	7.2	12	7.4	5.3	8.3	7.2	8.6	10	5.7	908	17	17
12	8.6	12	6.9	5.3	8.0	8.0	8.0	9.0	5.7	510	17	17
13	8.6	12	6.9	5.3	8.0	8.0	8.0	8.3	6.0	278	17	17
14	8.6	11	6.9	5.3	8.0	7.7	8.0	8.0	5.7	541	17	17
15	8.6	11	6.6	5.0	8.0	7.7	8.3	7.7	5.7	920	17	17
16	8.6	13	6.0	5.3	7.7	19	8.3	7.4	5.5	995	17	17
17	8.6	12	5.5	5.5	7.7	16	8.0	7.2	5.5	990	17	17
18	8.6	12	5.5	5.5	7.7	14	9.0	6.9	5.5	709	17	18
19	8.6	12	5.5	5.5	7.7	14	8.3	6.6	5.5	310	17	17
20	9.0	13	5.5	6.0	7.7	13	8.0	6.3	5.3	79	17	17
21	9.7	12	5.7	13	7.4	12	8.0	5.7	5.3	15	17	17
22	10	9.7	5.5	10	7.4	12	7.7	5.5	5.3	18	17	17
23	10	6.6	5.5	8.0	7.2	12	7.7	5.3	5.3	292	17	17
24	11	6.3	5.5	7.7	7.2	11	7.7	5.5	5.0	275	17	17
25	11	6.0	5.3	7.4	7.7	9.7	8.0	6.0	5.3	17	17	17
26	11	5.5	5.3	7.4	7.4	8.6	8.3	6.0	6.0	17	17	17
27	11	5.5	5.3	7.4	7.2	7.4	9.3	5.7	5.7	17	17	17
28	11	6.3	5.3	8.0	7.2	8.0	8.6	5.7	5.7	17	17	17
29	11	6.0	5.5	14	- - - -	7.7	8.3	5.5	290	17	17	17
30	11	5.5	5.7	16	- - - -	7.4	8.3	5.5	530	17	17	17
31	11	- - - -	5.7	14	- - - -	7.4	- - - -	6.0	- - - -	17	17	- - - -
Total	305.1	306.4	230.1	221.1	234.1	285.6	242.0	236.1	974.3	15,889	527	511
Mean	9.84	10.2	7.42	7.13	8.36	9.21	8.07	7.62	32.5	513	17.0	17.0
Max	16	13	25	16	12	19	9.3	12	530	1,170	17	18
Min	5.3	5.5	5.3	5.0	7.2	6.6	7.2	5.3	5.0	15	17	17
Ac-ft	605	608	456	439	464	566	480	468	1,930	31,520	1,050	1,010

Cal yr 1966: Total **3,327.6** Mean **9.12** Max **25** Min **5.0** Ac-ft **6,600**
 Wtr yr 1967: Total **19,961.8** Mean **54.7** Max **1,170** Min **5.0** Ac-ft **39,590**

SAN JOAQUIN RIVER BASIN

11-2775. LAKE ELEANOR NEAR HETCH HETCHY, CALIF.

LOCATION.--Lat 37°58'30", long 119°52'45", in NW¼ sec.3, T.1 N., R.19 E., on downstream side of dam on Eleanor Creek, 720 ft from left bank, 1.7 miles upstream from Miguel Creek, and 5.5 miles northwest of Hetch Hetchy.

DRAINAGE AREA.--78.1 sq mi.

RECORDS AVAILABLE.--June 1918 to September 1967. Prior to October 1930, published in WSP 1315-A. Published as "near Sequoia" 1919-20.

GAGE.--Graphic water-stage recorder. Datum of gage is at mean sea level (levels by city and county of San Francisco). Prior to Oct. 1, 1927, staff gage on upstream side of dam at same site and datum.

EXTREMES.--Maximum contents during year, 27,300 acre-ft Aug. 3, 4 (elevation, 4,661.2 ft); minimum, not determined.

1919-67: Maximum contents, 31,000 acre-ft Dec. 11, 1937, from capacity table then in use (elevation, 4,663.4 ft); no usable contents at times in 1921, 1929-30, 1956-60.

REMARKS.--Reservoir is formed by multiple-arch dam completed in 1918; storage began June 23, 1918. Usable capacity, 26,100 acre-ft between elevations 4,620.9 (natural outlet of old lake) and 4,660.0 ft (top of 5-foot flashboards) above mean sea level. Water is released down Eleanor Creek for power development and domestic supply as part of Hetch Hetchy system of city and county of San Francisco. Figures given herein represent usable contents. See schematic diagram of Tuolumne River basin.

COOPERATION.--Gage-height record furnished by city and county of San Francisco.

CAPACITY TABLE (ELEVATION, IN FEET, AND CONTENTS, IN ACRE-FEET)

4,626.2	639	4,644	11,900
4,627	996	4,646	13,500
4,628	1,480	4,648	15,300
4,630	2,450	4,650	17,000
4,632	3,580	4,652	18,800
4,634	4,700	4,654	20,600
4,636	5,960	4,656	22,400
4,638	7,330	4,658	24,300
4,640	8,710	4,660	26,100
4,642	10,300	4,663	29,100

CONTENTS, IN ACRE-FEET, AT 2400 HOURS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		-	6,990	3,240	3,130	2,060	5,040	2,210	25,100	26,200	27,200	26,700
2		-	8,230	3,010	2,840	2,060	4,540	2,350	24,600	26,100	27,200	26,600
3		-	9,020	2,790	2,620	2,160	4,080	2,620	24,300	26,100	27,300	26,600
4		-	9,020	2,620	2,510	2,160	3,690	2,840	24,500	26,100	27,300	26,500
5		-	10,100	2,350	2,450	2,110	3,350	3,010	25,000	26,000	27,200	26,500
6		-	17,800	2,160	2,450	2,110	3,070	3,410	25,200	25,900	27,100	26,500
7		-	19,000	2,010	2,450	2,060	2,900	4,200	25,600	25,900	27,100	26,400
8		-	18,600	1,870	2,510	2,110	2,730	5,410	26,100	25,800	27,000	26,400
9		-	18,000	1,820	2,510	2,210	2,620	6,780	26,300	25,700	27,000	26,300
10		-	17,200	1,720	2,560	2,210	2,620	7,610	26,400	25,800	26,900	26,300
11		-	16,200	1,670	2,560	2,300	2,620	7,610	26,500	26,100	26,800	26,300
12		-	15,300	1,620	2,560	2,350	2,510	7,260	26,500	26,500	26,800	26,200
13		-	14,400	1,620	2,620	2,400	2,510	6,920	26,500	26,800	26,700	26,200
14		-	13,500	1,620	2,560	2,350	2,560	6,850	26,400	26,900	26,700	26,100
15		-	12,600	1,620	2,450	2,400	2,620	7,400	26,400	27,000	26,600	26,100
16		-	11,800	1,620	2,350	7,470	2,510	8,500	26,400	26,900	26,500	26,100
17		-	11,000	1,670	2,260	10,400	2,450	10,300	26,600	26,900	26,500	26,000
18		-	10,200	1,620	2,210	11,100	2,510	11,900	26,600	26,800	26,500	25,900
19		-	9,420	1,620	2,210	11,000	2,450	13,400	26,500	26,700	26,500	26,000
20		1,580	8,640	1,670	2,160	10,700	2,400	15,000	26,400	26,600	26,500	26,000
21		2,010	7,950	2,160	2,110	10,200	2,350	17,200	26,400	26,500	26,600	25,900
22		2,160	7,260	2,210	2,110	9,820	2,300	19,600	26,300	26,400	26,600	25,800
23		2,110	6,580	2,210	2,060	9,340	2,260	21,700	26,200	26,400	26,500	25,800
24		1,960	6,090	2,260	2,060	8,790	2,210	23,500	26,100	26,400	26,500	25,700
25		1,870	5,540	2,210	2,060	8,230	2,210	25,100	26,200	26,300	26,500	25,700
26		1,770	5,100	2,210	2,060	7,610	2,210	26,200	26,200	26,300	26,600	25,700
27		1,720	4,700	2,260	2,060	6,990	2,260	26,600	26,100	26,300	26,700	25,700
28		5,100	4,370	2,350	2,060	6,850	2,260	26,500	26,100	26,400	26,700	25,600
29		7,060	4,080	3,240	-----	6,510	2,260	26,300	26,200	26,600	26,700	25,600
30		7,190	3,800	3,520	-----	6,090	2,210	26,000	26,200	26,800	26,700	25,500
31		-----	3,460	3,410	-----	5,610	-----	25,600	-----	27,000	26,700	-----
(†)	4,604.2	4,637.8	4,631.8	4,631.7	4,629.2	4,635.5	4,629.5	4,659.4	4,660.1	4,660.9	4,660.6	4,659.3
(‡)	-	-	- 3,730	- 50	- 1,350	+ 3,550	- 3,400	+ 23,390	+ 600	+ 800	- 300	- 1,200
Max	-	7,190	19,000	3,520	3,130	11,100	5,040	26,600	26,600	27,000	27,300	26,700
Min	-	-	3,460	1,620	2,060	2,060	2,210	2,210	24,300	25,700	26,500	25,500

Cal yr 1966.....# +1,880

Wat yr 1967.....# -

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-feet.

Note.--No reliable capacity table Oct. 1 to Nov. 19.

11-2780. ELEANOR CREEK NEAR HETCH HETCHY, CALIF.

LOCATION.--Lat 37°58'10", long 119°52'50", in SW $\frac{1}{4}$ sec.3, T.1 N., R.19 E., in Yosemite National Park, on right bank 0.5 mile downstream from Lake Eleanor Dam, 1.1 miles upstream from Miguel Creek, and 5.5 miles northwest of Hetch Hetchy.

DRAINAGE AREA.--78.4 sq mi.

RECORDS AVAILABLE.--October 1909 to September 1967. Monthly discharge only for some periods, published in WSP 1315-A. Published as "near Sequoia" 1910-18.

GAGE.--Graphic water-stage recorder and concrete control. Altitude of gage is 4,500 ft (from topographic map). November 1909 to November 1915, staff gage and graphic water-stage recorder at site 1 mile upstream at different datum.

AVERAGE DISCHARGE.--50 years (1909-59), 223 cfs (161,400 acre-ft per year), prior to diversion to Cherry Lake.

EXTREMES.--Maximum discharge during year, 1,620 cfs June 19 (gage height, 5.80 ft); minimum daily, 0.10 cfs for many days.

1909-67: Maximum discharge, 11,700 cfs Nov. 19, 1950 (gage height, 14.95 ft), from rating curve extended above 2,000 cfs on basis of velocity-area studies; no flow at times in 1910, 1930-31, 1933, 1956.

REMARKS.--Records good. Flow regulated by Lake Eleanor beginning in 1918 (see sta. no. 2775). Diversion from Lake Eleanor to Cherry Lake began in March 1960. See schematic diagram of Tuolumne River basin.

COOPERATION.--Gage-height record and 10 discharge measurements furnished by city and county of San Francisco.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.20	0.10	4.6	5.1	7.4	5.6	5.4	5.9	312	1,130	71	22
2	.20	.10	9.7	5.1	6.8	5.6	5.1	6.5	184	1,100	92	22
3	.20	.10	6.5	5.1	6.5	5.6	5.1	5.6	123	1,050	96	22
4	.20	.10	6.2	5.1	6.5	5.6	5.6	5.6	111	911	96	22
5	.20	.10	16	5.1	6.2	5.6	5.6	5.1	155	855	97	22
6	.20	.20	17	5.1	6.2	5.6	5.4	5.1	188	771	91	22
7	.20	.20	5.6	5.4	6.2	5.6	5.9	5.1	253	708	73	22
8	.20	.10	4.6	5.4	6.2	5.6	5.4	5.1	430	696	80	22
9	.10	.10	5.4	5.4	6.2	5.6	5.1	5.4	600	570	83	22
10	.10	.10	5.9	5.4	6.2	5.6	4.8	8.0	720	430	78	22
11	.10	.10	5.6	5.1	6.2	5.9	4.8	5.9	785	256	75	22
12	.10	.10	5.1	5.1	6.2	6.8	4.8	5.4	771	218	73	22
13	.20	.10	4.8	5.1	6.2	6.5	4.6	5.1	785	320	72	22
14	.20	.10	4.8	5.1	6.2	6.2	4.8	5.1	1,100	425	69	22
15	.20	.20	5.4	5.1	6.2	7.4	5.4	4.8	1,260	470	62	22
16	.20	1.2	5.6	5.1	6.2	16	5.4	3.8	1,280	450	59	22
17	.10	1.0	4.8	5.1	6.2	8.3	5.1	3.2	1,360	450	42	22
18	.10	4.5	4.8	5.1	6.2	7.7	5.4	3.8	1,510	420	32	22
19	.10	6.2	5.1	5.1	6.2	7.1	5.1	4.4	1,510	370	30	22
20	.10	8.0	5.1	5.6	5.6	6.5	5.1	4.4	1,330	316	28	21
21	.20	9.0	5.4	12	5.4	6.2	4.8	4.8	1,300	271	26	21
22	.20	7.4	5.1	8.3	5.4	6.2	4.8	5.1	1,300	245	26	21
23	.20	5.1	4.8	6.8	5.4	5.9	5.4	5.9	1,200	232	26	21
24	.10	5.1	4.8	6.5	5.4	5.6	5.4	18	1,110	225	26	21
25	.10	5.1	5.1	6.2	5.6	5.4	5.6	101	1,140	218	25	20
26	.10	4.8	5.4	6.5	5.6	5.4	5.9	238	1,180	208	24	20
27	.10	4.8	5.1	7.1	5.6	5.1	5.9	678	1,110	159	24	20
28	.10	5.9	5.1	8.0	5.6	5.1	5.1	869	1,060	106	22	20
29	.10	5.1	5.4	11	-----	5.6	5.1	744	1,070	72	22	20
30	.10	4.4	5.4	10	-----	5.4	5.4	648	1,120	57	22	20
31	.10	-----	5.4	8.6	-----	5.4	-----	490	-----	51	22	-----
Total	4.60	79.40	189.6	194.7	169.8	195.7	157.3	3,905.1	26,357	13,740	1,664	643
Mean	.15	2.65	6.12	6.28	6.06	6.31	5.24	126	879	443	53.7	21.4
Max	.20	9.0	17	12	7.4	16	5.9	869	1,510	1,130	97	22
Min	.10	.10	4.6	5.1	5.4	5.1	4.6	3.2	111	51	22	20
Ac-ft	9.1	157	376	386	337	388	312	7,750	52,280	27,250	3,300	1,280

Cal yr 1966: Total **20426** Mean **5.60** Max **28** Min **10** Ac-ft **4050**
Wtr yr 1967: Total **47,300.2** Mean **130** Max **1,510** Min **10** Ac-ft **93,820**

SAN JOAQUIN RIVER BASIN

11-2782. CHERRY CREEK CANAL NEAR EARLY INTAKE, CALIF.

LOCATION.--Lat 37°53'36", long 119°57'15", in S½ sec.36, T.1 N., R.18 E., on left bank 1.3 miles northeast of Early Intake and 10 miles southwest of Hetch Hetchy.

RECORDS AVAILABLE.--April 1956 to September 1967.

GAGE.--Graphic water-stage recorder. Altitude of gage is 2,700 ft (from topographic map).

EXTREMES.--1956-67: Maximum daily discharge, 194 cfs July 30, 1959; no flow June 19, 20, 23, 1964.

REMARKS.--Records good. Canal diverts from left bank of Cherry Creek in SW¼ sec.31, T.1 N., R.19 E., for domestic use at Early Intake and occasional power development at Early Intake powerhouse as part of Hetch Hetchy system of city and county of San Francisco. See schematic diagram of Tuolumne River basin.

COOPERATION.--Gage-height record and nine discharge measurements furnished by city and county of San Francisco.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.0	6.3	5.9	4.1	4.1	3.1	3.1	1.2	7.9	1.7	1.4	1.4
2	6.0	6.2	6.2	4.1	4.0	3.1	3.7	1.2	7.6	1.7	1.4	1.4
3	6.0	6.3	6.1	4.1	4.0	3.2	5.4	1.2	7.5	1.7	1.4	1.4
4	6.0	6.3	5.9	4.1	4.0	3.2	5.6	1.2	7.5	1.7	1.4	1.4
5	6.0	6.3	6.5	4	3.7	3.2	5.6	1.2	7.5	1.7	1.4	1.4
6	1.0	6.5	7.0	3.8	3.6	3.2	5.7	1.2	7.5	1.7	1.4	1.4
7	4.0	6.6	5.8	3.8	3.6	3.2	5.9	1.1	1.1	1.7	1.4	1.4
8	4.0	6.6	5.5	3.8	3.6	3.4	5.9	1.1	1.6	1.7	1.4	1.3
9	4.5	6.5	5.2	3.8	3.6	3.4	5.9	1.1	1.6	1.7	1.4	1.3
10	4.5	6.5	5.1	3.8	3.6	3.5	5.9	1.1	1.6	1.7	1.5	1.4
11	6.2	6.5	5.1	3.8	3.5	3.7	5.9	1.0	1.7	1.7	1.5	1.4
12	6.3	6.5	5.1	3.8	3.4	4.1	5.9	9.8	1.7	1.6	1.5	1.4
13	6.3	6.5	5.1	3.8	3.4	4.2	5.9	9.3	1.7	1.6	1.5	1.4
14	5.2	6.3	5.1	3.8	3.5	4.1	6.9	9.2	1.7	1.6	1.5	1.4
15	4.6	6.3	5.0	3.8	3.5	4.1	7.9	8.9	1.7	1.6	1.5	1.4
16	4.6	6.8	5.0	3.8	3.4	5.4	7.3	8.6	1.7	1.6	1.4	1.4
17	4.6	6.6	5.0	3.8	3.4	5.0	7.3	8.4	1.7	1.6	1.4	1.4
18	4.8	6.6	5.0	3.7	3.5	4.6	7.6	8.2	1.7	1.6	1.4	1.4
19	5.2	6.6	5.0	3.5	3.5	4.2	7.7	8.0	1.8	1.6	1.4	1.4
20	5.2	6.8	5.0	3.5	3.5	4.0	7.9	7.9	1.7	1.5	1.4	1.4
21	5.2	6.6	5.0	3.6	3.5	3.9	8.2	7.7	1.7	1.5	1.4	1.4
22	6.3	6.6	5.0	3.6	3.5	5.9	8.3	7.7	1.7	1.5	1.4	1.4
23	6.5	6.6	5.0	3.5	3.6	5.6	8.6	7.6	1.7	1.5	1.4	1.4
24	6.5	6.6	5.0	3.6	3.6	5.9	9.0	7.5	1.7	1.5	1.4	1.4
25	6.5	6.5	5.0	3.6	3.7	5.9	9.4	7.6	1.6	1.5	1.4	1.4
26	6.6	6.5	5.1	3.6	3.5	5.6	9.8	7.7	1.6	1.5	1.4	1.4
27	6.5	6.2	5.1	3.6	3.2	4.2	10	7.9	1.6	1.4	1.4	1.4
28	6.5	6.3	5.1	3.7	3.2	5.9	11	8.2	1.6	1.4	1.4	1.4
29	6.5	6.1	5.1	4.1	- - - - -	5.9	11	8.3	1.7	1.4	1.4	1.4
30	6.5	5.8	4.5	4.1	- - - - -	7.3	11	8.2	1.7	1.4	1.4	1.4
31	6.5	- - - - -	4.1	4.2	- - - - -	20	- - - - -	8.0	- - - - -	1.4	1.4	- - - - -
Total	171.1	193.4	163.6	117.9	100.2	152.0	280.5	290.7	441.5	490	440	418
Mean	5.52	6.45	5.28	3.80	3.58	4.90	9.35	9.38	14.7	15.8	14.2	13.9
Max	6.6	6.8	7.0	4.2	4.1	20	37	12	18	17	15	14
Min	1.0	5.8	4.1	3.5	3.2	3.1	5.4	7.5	7.5	1.4	1.4	1.3
Ac-ft	339	384	324	234	199	301	556	577	876	972	873	829

Cal yr 1966: Total **3,155.4** Mean **86.4** Max **44** Min **1.0** Ac-ft **6,260**
Wtr yr 1967: Total **3,258.9** Mean **8.93** Max **37** Min **1.0** Ac-ft **6,460**

11-2783. CHERRY CREEK NEAR EARLY INTAKE, CALIF.

LOCATION.--Lat 37°53'40", long 119°57'42", in SE $\frac{1}{4}$ sec.35, T.1 N., R.18 E., on right bank 1.2 miles upstream from mouth, 1.3 miles north of Early Intake, and 10.3 miles southwest of Hetch Hetchy.

DRAINAGE AREA.--226 sq mi.

RECORDS AVAILABLE.--May 1956 to September 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is 2,272.00 ft above mean sea level (levels by city and county of San Francisco).

EXTREMES.--Maximum discharge during year, 1,980 cfs July 5 (gage height, 8.15 ft); minimum daily, 1.8 cfs Oct. 11.

1956-67: Maximum discharge, 16,500 cfs Feb. 1, 1963 (gage height, 14.50 ft), from rating curve extended above 4,600 cfs; minimum daily, 0.30 cfs Apr. 5, 6, 1964.

REMARKS.--Records good. Flow regulated by Cherry Lake (see sta. no. 2772) and Lake Eleanor (see sta. no. 2775). Cherry Creek Canal diverts 1.0 mile upstream from station (see sta. no. 2782). Diversion from Cherry Lake to Cherry powerhouse began Aug. 1, 1960. Water is returned to creek 1.2 miles below station. See schematic diagram of Tuolumne River basin.

COOPERATION.--Gage-height record and seven discharge measurements furnished by city and county of San Francisco.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11	6.4	9.1	19	151	41	72	135	404	1,640	74	28
2	12	6.7	39	19	120	39	62	159	290	1,600	120	28
3	12	6.2	62	18	105	40	96	190	213	1,560	125	28
4	12	6.2	22	18	99	42	108	194	183	1,480	127	28
5	12	6.9	149	18	98	40	116	190	223	1,700	127	28
6	6.1	7.8	532	18	95	38	118	203	263	1,880	122	28
7	2.8	9.7	157	18	91	37	150	238	308	1,840	101	28
8	2.3	8.0	79	18	84	36	129	261	417	1,800	96	28
9	2.0	7.8	56	18	80	35	131	268	566	1,720	109	28
10	1.9	7.6	49	17	76	34	141	345	686	1,600	103	28
11	1.8	7.4	42	17	73	47	142	256	730	1,210	98	27
12	2.5	7.6	37	17	70	77	125	211	730	795	93	27
13	5.0	7.4	34	17	69	87	129	198	746	634	91	27
14	5.5	7.2	31	17	70	68	144	196	1,000	930	88	27
15	6.6	7.4	28	16	63	70	151	205	1,240	1,370	82	27
16	6.6	22	28	16	59	352	129	205	1,240	1,450	73	27
17	6.6	13	26	16	56	292	131	194	1,310	1,450	63	27
18	6.4	8.9	24	16	53	201	157	180	1,460	1,160	42	34
19	6.1	12	23	16	51	182	144	165	1,480	734	39	28
20	6.0	26	22	17	48	168	134	154	1,310	445	36	27
21	6.6	28	22	165	45	165	129	142	1,270	318	34	27
22	6.4	30	21	146	44	163	127	129	1,260	298	34	28
23	6.4	15	21	82	42	157	123	116	1,160	476	33	28
24	6.6	9.7	20	78	41	144	132	111	1,050	610	33	28
25	6.6	8.7	20	63	47	131	131	168	1,080	261	34	28
26	6.6	8.0	19	56	45	119	136	308	1,110	253	32	27
27	6.6	7.6	18	65	43	113	165	634	1,060	207	30	27
28	6.6	12	19	76	42	129	146	865	1,000	151	30	26
29	6.4	20	19	269	---	148	131	759	1,240	113	28	26
30	6.4	10	19	253	---	115	132	674	1,640	75	28	26
31	6.4	---	20	233	---	108	---	546	---	74	28	---
Total	198.8	341.2	1,667.1	1,832	1,960	3,418	3,861	8,599	26,669	29,834	2,153	829
Mean	6.41	11.4	53.8	59.1	70.0	110	129	277	889	962	69.5	27.6
Max	12	30	532	269	151	352	165	865	1,640	1,880	127	34
Min	1.8	6.2	9.1	16	41	34	62	111	183	74	28	26
Ac-ft	394	677	3,310	3,630	3,890	6,780	7,660	17,060	52,900	59,170	4,270	1,640
Cal yr 1966: Total	7,889.7			Mean 21.6	Max 532	Min 1.8		Ac-ft 15,650				
Wtr yr 1967: Total	81,362.1			Mean 223	Max 1,880	Min 1.8		Ac-ft 161,400				

SAN JOAQUIN RIVER BASIN

11-2784. CHERRY CREEK BELOW DION R. HOLM POWERHOUSE, NEAR MATHER, CALIF.

LOCATION.--Lat 37°53'25", long 119°58'10", in NW¼ sec.2, T.1 S., R.18 E., on left bank 600 ft upstream from mouth, 0.5 mile downstream from powerhouse, 1.2 miles northwest of Early Intake, and 5.3 miles west of Mather.

DRAINAGE AREA.--234 sq mi.

RECORDS AVAILABLE.--March 1963 to September 1967. Prior to October 1965, published as "below Cherry powerhouse, near Mather."

GAGE.--Digital water-stage recorder. Altitude of gage is 2,150 ft (from topographic map). Prior to May 26, 1966, graphic water-stage recorder at same site and datum.

EXTREMES.--Maximum discharge during year, 2,860 cfs July 5 (gage height, 10.36 ft); minimum daily, 94 cfs Nov. 13.

1963-67: Maximum discharge, 8,530 cfs Dec. 24, 1964 (gage height, 13.55 ft), from rating curve extended above 1,700 cfs; minimum daily, 3.6 cfs Oct. 26, 27, 1964.

REMARKS.--Records good. Flow regulated by Cherry Lake (see sta. no. 2772) and Lake Eleanor (see sta. no. 2775). Cherry Creek Canal (see sta. no. 2782) diverts 2 miles upstream from station. See schematic diagram of Tuolumne River basin.

COOPERATION.--Gage-height record and 12 discharge measurements furnished by city and county of San Francisco.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	640	448	492	324	742	568	406	659	1,330	2,080	662	570
2	290	460	576	417	709	564	163	686	1,190	1,820	640	524
3	612	476	448	604	696	568	484	723	1,090	2,130	632	227
4	592	460	239	585	614	524	471	717	1,040	1,760	642	170
5	592	405	680	597	367	275	563	712	1,070	2,250	544	570
6	588	140	1,100	583	690	572	620	566	1,140	2,440	341	626
7	584	460	660	556	686	568	664	358	1,200	2,380	624	624
8	520	428	504	324	648	460	438	827	1,330	2,240	621	623
9	249	420	476	606	636	413	224	912	1,490	1,800	634	543
10	584	420	393	603	644	419	550	1,030	1,610	2,130	621	223
11	588	278	181	602	568	371	574	915	1,530	1,760	626	614
12	584	333	464	603	325	197	559	867	1,660	1,360	523	611
13	600	94	476	597	620	468	613	703	1,690	1,170	367	611
14	576	432	484	550	620	532	530	545	1,900	1,450	619	611
15	520	424	444	321	600	524	547	878	2,110	1,820	594	610
16	253	440	448	598	600	800	264	882	2,100	1,780	590	536
17	584	436	369	599	608	700	600	870	2,140	1,990	585	197
18	576	436	159	602	536	532	660	859	2,110	1,750	568	615
19	576	339	453	609	308	293	803	839	2,290	1,310	480	611
20	580	122	445	607	600	584	815	668	2,140	1,020	195	610
21	580	460	451	712	592	506	911	510	2,120	857	568	610
22	516	452	454	448	365	600	910	838	2,140	723	557	611
23	253	440	451	670	596	609	909	802	2,060	602	556	520
24	580	107	365	669	592	553	917	801	1,920	1,200	554	231
25	576	424	152	654	536	433	914	854	1,790	791	561	602
26	576	339	310	648	298	223	920	1,060	2,010	766	471	612
27	580	108	449	654	592	454	950	1,550	1,950	736	187	612
28	580	448	445	617	592	474	930	1,770	1,890	675	567	609
29	576	444	448	587	-----	491	915	1,670	2,140	544	560	619
30	378	432	449	868	-----	459	744	1,580	2,450	219	560	554
31	580	-----	367	843	-----	462	-----	1,450	-----	625	557	-----
TOTAL	16,463	11,105	13,832	18,257	15,980	15,196	19,568	28,101	52,630	44,178	16,806	15,906
MEAN	531	370	446	589	571	490	652	906	1,754	1,425	542	530
MAX	640	476	1,100	868	742	800	950	1,770	2,450	2,440	662	626
MIN	249	94	152	321	298	197	163	358	1,040	219	187	170
AC-FT	32,650	22,030	27,440	36,210	31,700	30,140	38,810	55,740	104,400	87,630	33,330	31,550

CAL YR 1966: TOTAL 204,497

MEAN 560

MAX 1,100

MIN 82

AC-FT 405,600

WAT YR 1967: TOTAL 268,022

MEAN 734

MAX 2,450

MIN 94

AC-FT 531,600

11-2810. SOUTH FORK TUOLUMNE RIVER NEAR OAKLAND RECREATION CAMP, CALIF.

LOCATION.--Lat 37°49'16", long 120°00'48", in SE¼ sec.29, T.1 S., R.18 E., on right bank 75 ft downstream from highway bridge on Big Oak Flat Road, 0.5 mile southwest of Oakland Recreation Camp, and 0.6 mile upstream from Middle Tuolumne River.

DRAINAGE AREA.--87.0 sq mi.

RECORDS AVAILABLE.--March 1923 to September 1967.

GAGE.--Graphic water-stage recorder. Altitude of gage is 2,800 ft (from topographic map). Prior to Nov. 22, 1931, at site 50 ft upstream at same datum.

AVERAGE DISCHARGE.--44 years, 91.8 cfs (66,460 acre-ft per year).

EXTREMES.--Maximum discharge during year, 3,770 cfs Dec. 6 (gage height, 8.08 ft); minimum daily, 4.8 cfs Oct. 1, 11.

1923-67: Maximum discharge, 11,900 cfs Dec. 23, 1955 (gage height, 10.9 ft, from floodmarks), from rating curve extended above 1,300 cfs on basis of slope-area measurements at gage heights 7.48 and 10.9 ft; minimum, 0.3 cfs Aug. 23, 1934.

REMARKS.--Records good. No storage or diversion above station. See schematic diagram of Tuolumne River basin.

COOPERATION.--Gage-height record and 16 discharge measurements furnished by city and county of San Francisco.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.8	5.6	48	40	248	75	228	224	468	342	46	21
2	5.0	5.4	352	40	184	76	220	246	408	318	44	21
3	5.2	5.6	359	40	147	84	210	275	384	282	43	21
4	5.3	5.7	109	40	130	82	228	285	428	250	41	21
5	5.4	5.6	676	39	121	76	234	278	496	232	39	20
6	5.2	7.2	2,140	38	114	74	248	292	420	202	38	20
7	5.1	18	633	37	111	73	360	360	452	192	37	20
8	5.1	12	262	39	108	75	278	476	480	174	36	20
9	5.1	10	176	40	106	77	262	576	480	159	36	19
10	5.0	9.1	138	40	106	77	262	710	480	146	35	20
11	4.8	8.6	113	41	106	94	258	508	488	134	34	19
12	4.9	8.3	98	41	104	246	234	411	472	132	33	18
13	5.1	8.3	90	40	106	202	240	384	456	121	32	18
14	5.4	8.2	83	40	106	149	250	408	428	113	31	18
15	5.6	8.6	77	40	96	159	258	524	452	106	30	18
16	4.9	56	73	41	92	2,230	232	665	500	100	30	17
17	5.6	30	71	40	87	1,180	232	795	512	92	32	17
18	5.8	18	69	39	85	670	295	850	524	84	29	26
19	5.7	15	67	38	84	476	255	850	566	78	27	26
20	5.6	91	66	41	80	381	238	934	557	73	26	21
21	5.4	67	63	184	77	342	232	1,060	516	70	26	19
22	5.6	64	59	266	76	333	226	1,070	492	68	25	20
23	5.8	36	57	104	75	315	224	1,080	444	65	24	20
24	5.7	25	55	104	74	285	236	1,020	448	62	25	21
25	5.6	21	50	87	81	260	232	952	424	60	28	20
26	5.4	19	46	78	75	242	234	850	408	56	32	20
27	5.4	19	41	84	75	230	282	795	396	54	26	19
28	5.4	137	46	97	74	295	255	730	381	52	24	18
29	5.6	159	45	385	---	303	226	630	384	51	23	19
30	5.6	66	43	607	---	248	218	584	375	48	22	18
31	5.6	---	42	475	---	244	---	540	---	47	21	---
Total	165.7	949.2	6,247	3,265	2,928	9,653	7,387	19,362	13,719	3,963	975	595
Mean	5.35	31.6	202	105	105	311	246	625	457	128	31.5	19.8
Max	5.8	159	2,140	607	248	2,230	360	1,080	566	342	46	26
Min	4.8	5.4	41	37	74	73	210	224	375	47	21	17
Ac-ft	329	1,880	12,390	6,480	5,810	19,150	14,650	38,400	27,210	7,860	1,930	1,180

Cal yr 1966: Total 26,524.1 Mean 72.7 Max 2,140 Min 4.1 Ac-ft 52,610
 Wtr yr 1967: Total 69,208.9 Mean 190 Max 2,230 Min 4.8 Ac-ft 137,300

Peak discharge (base, 900 cfs, revised)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 2	2300	5.60	1,180	3-16	1400	7.89	3,510
12- 6	1300	8.08	3,770	3-22	2230	5.78	1,290
1-30	1800	6.06	1,510	6-19	2100	5.21	946

SAN JOAQUIN RIVER BASIN

11-2820. MIDDLE TUOLUMNE RIVER AT OAKLAND RECREATION CAMP, CALIF.

LOCATION.--Lat 37°49'40", long 120°00'40", in NW $\frac{1}{4}$ sec.28, T.1 S., R.18 E., on left bank 1,000 ft downstream from Oakland Recreation Camp, 0.5 mile upstream from South Fork Tuolumne River, and 4 miles east of Buck Meadows Post Office.

DRAINAGE AREA.--73.5 sq mi.

RECORDS AVAILABLE.--October 1916 to September 1967. Monthly discharge only for October 1916, published in WSP 1315-A. Published as Middle Fork of Tuolumne River near Buck Meadows 1917-32 and as "near Buck Meadows" 1933-40.

GAGE.--Graphic water-stage recorder. Altitude of gage is 2,800 ft (from topographic map).

AVERAGE DISCHARGE.--51 years, 73.8 cfs (53,430 acre-ft per year).

EXTREMES.--Maximum discharge during year, 1,250 cfs June 19 (gage height, 6.70 ft); minimum daily, 1.3 cfs Oct. 1, 2, 10, 11.
1916-67: Maximum discharge, 4,920 cfs Dec. 23, 1955 (gage height, 11.75 ft from flood profile, 11.05 ft from floodmarks inside gage well), from rating curve extended above 1,400 cfs on basis of slope-area measurement of maximum flow; no flow Sept. 4-14, 1924, Aug. 12 to Oct. 8, 1931, Sept. 11-17, 1934, Sept. 7-14, 1961.

REMARKS.--Records good. No regulation; small diversion above station for irrigation. See schematic diagram of Tuolumne River basin.

COOPERATION.--Gage-height record and 13 discharge measurements furnished by city and county of San Francisco.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.3	1.8	25	25	114	46	140	151	410	584	46	13
2	1.3	1.7	100	25	88	47	132	164	349	542	41	12
3	1.4	1.7	104	25	75	52	128	174	338	482	39	12
4	1.4	1.7	47	25	68	52	137	172	398	412	38	12
5	1.4	1.7	238	23	65	46	144	162	464	360	36	12
6	1.4	2.0	650	21	61	47	161	163	415	322	34	11
7	1.4	3.6	279	24	59	46	217	187	485	313	32	11
8	1.4	3.6	143	25	58	47	163	223	533	254	30	10
9	1.4	3.9	96	26	57	50	156	266	545	228	30	9.8
10	1.3	3.8	76	26	58	51	157	305	551	210	29	10
11	1.3	3.4	64	26	58	71	163	242	578	201	27	9.8
12	1.4	3.0	55	26	58	209	147	206	578	197	26	9.4
13	1.4	3.0	51	26	58	132	147	202	563	174	25	9.0
14	1.4	3.1	45	26	61	92	152	215	563	160	24	8.8
15	1.5	3.5	43	25	54	98	156	269	602	150	23	8.6
16	1.5	11	41	26	52	724	140	329	632	151	25	8.2
17	1.7	19	39	25	50	395	144	375	644	133	26	8.2
18	1.7	10	38	25	50	300	179	449	734	124	22	11
19	1.7	8.0	37	25	50	256	156	476	782	119	20	14
20	1.7	27	36	26	46	204	152	563	830	110	15	13
21	1.7	26	35	72	45	172	152	680	778	98	17	10
22	1.7	34	32	156	46	166	154	778	734	91	19	9.8
23	1.8	14	31	50	46	160	150	846	668	85	17	9.8
24	1.7	9.2	30	96	45	150	157	842	677	79	23	11
25	1.8	7.4	29	50	50	141	154	814	677	73	26	11
26	1.8	7.3	28	45	45	134	156	758	650	67	26	11
27	1.8	6.9	23	47	45	127	182	734	632	61	22	10
28	1.8	12	24	58	45	156	162	704	611	56	18	9.2
29	1.8	70	26	159	- - - -	153	148	626	620	52	16	8.6
30	1.8	38	28	202	- - - -	144	148	587	623	50	15	8.6
31	1.8	- - - -	26	179	- - - -	145	- - - -	506	- - - -	48	13	- - - -
Total	48.5	341.3	2,519	1,615	1,607	4,623	4,634	13,168	17,664	5,986	800	311.8
Mean	1.56	11.4	81.3	52.1	57.4	149	154	425	589	193	25.8	10.4
Max	1.8	70	650	202	114	724	217	846	830	584	46	14
Min	1.3	1.7	23	21	45	46	128	151	338	48	13	8.2
Ac-ft	96	677	5,000	3,200	3,190	9,170	9,190	26,120	35,040	11,870	1,590	618

Cal yr 1966: Total 19,629.0 Mean 53.8 Max 650 Min .80 Ac-ft 38,940
Wtr yr 1967: Total 53,317.6 Mean 146 Max 846 Min 1.3 Ac-ft 105,800

Peak discharge (base, 370 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-6	1700	6.30	1,070	5-24	0130	6.20	1,030
1-22	0200	4.75	515	6-19	2330	6.70	1,250
3-16	1000	6.55	1,180				

SAN JOAQUIN RIVER BASIN

693

11-2831. LILY CREEK NEAR PINECREST, CALIF.

LOCATION.--Lat 38°08'40", long 119°54'05", in T.3 N., R.19 E., on left bank 1,500 ft downstream from Mud Lake, and 5.7 miles southeast of Pinecrest.

DRAINAGE AREA.--11.9 sq mi.

RECORDS AVAILABLE.--July 1964 to September 1967.

GAGE.--Graphic water-stage recorder. Altitude of gage is 6,990 ft (from topographic map).

EXTREMES.--Maximum discharge during year, 1,060 cfs Mar. 16 (gage height, 8.80 ft); minimum daily, 0.10 cfs for many days.

1964-67: Maximum discharge, 1,700 cfs Dec. 23, 1964 (gage height, 10.77 ft), from rating curve extended above 200 cfs; minimum daily, 0.10 cfs for many days in each year.

Flood of Feb. 1, 1963, reached a stage of 11.7 ft, from floodmarks (discharge, 2,030 cfs).

REMARKS.--Records good except those for the winter periods, which are poor. Small regulation by Y-Meadow Reservoir (capacity, 180 acre-ft). No diversions above station. See schematic diagram for Tuolumne River basin. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.10	0.10	53	13	29	27	32	17	83	261	14	0.80
2	.10	.10	55	13	26	29	30	21	62	256	11	.70
3	.20	.10	81	13	23	32	28	24	76	224	9.3	.70
4	.20	.10	44	12	21	26	26	31	166	189	7.5	.60
5	.20	.10	37	12	25	22	24	30	190	168	6.0	.60
6	.20	.10	383	12	26	22	23	47	175	151	4.6	.50
7	.20	.30	177	12	28	28	22	107	240	141	3.9	.50
8	.20	.50	67	11	32	35	22	155	257	127	3.2	.40
9	.20	.40	47	11	33	37	27	153	267	112	2.8	.40
10	.20	.30	38	11	41	32	29	86	262	103	2.6	.30
11	.10	.30	34	11	35	22	26	56	259	101	2.4	.30
12	.10	.30	32	11	34	26	22	43	270	107	2.2	.30
13	.10	.30	31	11	34	37	26	43	248	106	1.7	.30
14	.10	.20	28	11	29	43	29	72	269	101	1.5	.30
15	.20	.40	28	12	26	29	25	138	297	84	1.4	.30
16	.10	52	30	12	25	574	22	220	327	72	1.4	.30
17	.10	27	32	12	22	472	20	269	358	72	1.3	.30
18	.10	12	31	12	25	212	21	264	365	66	1.1	.70
19	.10	7.9	33	12	27	126	22	264	316	61	1.0	.40
20	.10	88	32	12	25	80	20	300	302	52	1.1	.30
21	.10	30	29	15	23	64	19	363	318	47	1.0	.30
22	.10	19	26	35	23	66	19	376	311	47	.90	.30
23	.10	15	23	30	22	60	13	350	285	44	.70	.30
24	.10	14	22	27	21	46	13	331	299	41	1.4	.50
25	.10	13	20	25	20	44	16	306	313	36	17	.40
26	.10	12	18	22	20	36	16	290	295	31	16	.30
27	.10	12	17	28	21	32	13	292	284	27	5.1	.30
28	.10	287	16	30	22	47	18	284	277	24	3.0	.30
29	.10	283	15	37	-----	45	17	229	292	23	1.8	.30
30	.10	84	14	46	-----	38	16	191	289	21	1.3	.30
31	.10	-----	13	32	-----	34	-----	133	-----	16	1.0	-----
Total	4.00	964.50	1,506	563	738	2,423	671	5,490	7,752	2,911	129.20	12.30
Mean	0.13	32.2	48.6	18.2	26.4	78.2	22.4	177	253	93.9	4.17	0.41
Max	0.20	288	383	46	41	574	32	376	365	261	17	0.80
Min	0.10	0.10	13	11	20	22	16	17	62	16	0.70	0.30
Ac-ft	7.9	1,910	2,990	1,120	1,460	4,810	1,330	10,390	15,380	5,770	256	.24

Cal yr 1966: Total 12,575.00 Mean 34.7 Max 383 Min 0.10 Ac-ft 25,140
Wtr yr 1967: Total 23,164.00 Mean 63.5 Max 574 Min 0.10 Ac-ft 45,950

Peak discharge (base, 160 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-28	1900	7.70	765	5-08	2130	5.31	264
12-06	1600	7.45	702	5-22	2000	6.76	544
3-16	1800	8.80	1,060	6-17	1900	6.72	544

SAN JOAQUIN RIVER BASIN

11-2832. BELL CREEK NEAR PINECREST, CALIF.

LOCATION.--Lat 38°09'45", long 119°56'35", in NE¼ sec.36, T.4 N., R.18 E., on right bank 1,400 ft downstream from Bell Meadows, and 3 miles southeast of Pinecrest.

DRAINAGE AREA.--0.11 sq mi.

RECORDS AVAILABLE.--September 1963 to September 1967.

GAGE.--Graphic water-stage recorder. Altitude of gage is 6,450 ft (from topographic map).

EXTREMES.--Maximum discharge during year, 484 cfs Mar. 16 (gage height, 6.04 ft); no flow Oct. 1.

1963-67: Maximum discharge, 934 cfs Dec. 23, 1964 (gage height, 7.54 ft), from rating curve extended above 160 cfs on basis of slope-area measurement at gage height 8.79 ft; no flow at times in each year.

Flood of Feb. 1, 1963, reached a stage of 8.79 ft, from floodmarks (discharge, 1,410 cfs), from slope-area measurement of maximum flow.

REMARKS.--Records excellent. No storage or diversion above station. See schematic diagram for Tuolumne River basin.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0.10	1.3	8.5	22	19	29	14	86	162	11	1.0
2	.10	.10	28	9.5	19	20	24	17	70	155	10	1.0
3	.10	.10	42	8.5	17	21	25	19	76	140	9.0	1.1
4	.10	.10	17	9.3	16	19	22	22	111	123	7.5	1.0
5	.10	.10	26	7.7	19	16	21	21	132	113	6.3	1.0
6	.10	.10	212	8.1	18	16	19	29	119	104	5.5	1.0
7	.10	.20	73	7.7	21	19	22	58	136	95	4.8	.80
8	.10	.20	33	7.3	22	23	21	87	145	84	4.4	.70
9	.10	.10	24	7.3	23	23	22	94	150	75	4.1	.70
10	.10	.10	21	7.1	27	21	21	63	155	70	3.8	.60
11	.10	.10	19	7.5	26	18	21	45	153	71	3.5	.50
12	.10	.40	18	7.9	26	22	20	39	155	71	3.0	.50
13	.10	.20	17	9.0	27	30	22	45	149	75	2.8	.50
14	.10	.20	15	10	23	40	22	64	146	63	2.5	.40
15	.10	.30	15	10	20	29	20	107	159	60	2.4	.40
16	.10	8.8	16	10	18	267	21	144	180	54	2.3	.40
17	.10	6.3	16	9.8	18	189	17	174	204	50	2.3	.40
18	.10	2.9	16	9.2	20	101	19	176	211	45	1.9	1.7
19	.10	2.8	18	7.9	20	63	23	184	186	40	1.8	1.3
20	.10	15	17	7.5	19	55	20	211	190	34	1.7	.50
21	.10	5.2	15	8.5	18	52	16	247	193	32	1.5	.40
22	.10	4.0	14	35	18	55	21	256	188	31	1.4	.40
23	.10	3.7	13	43	19	52	17	242	176	29	1.4	.40
24	.10	2.9	12	34	17	45	15	230	182	26	1.5	.70
25	.10	3.0	8.0	34	15	42	14	217	189	23	10	.50
26	.10	2.8	9.0	25	15	36	14	206	181	21	6.4	.40
27	.10	3.0	9.0	37	16	34	14	199	176	19	2.6	.30
28	.10	74	9.0	28	17	48	15	181	170	18	1.9	.30
29	.10	81	9.8	42	- - - - -	43	14	160	176	17	1.5	.30
30	.10	23	9.0	41	- - - - -	29	15	141	174	15	1.3	.30
31	.10	- - - - -	8.3	31	- - - - -	29	- - - - -	115	- - - - -	13	1.1	- - - - -
Total	3.00	240.80	772.1	526.3	554	1,479	586	3,906	4,721	1,932	121.2	19.50
Mean	0.10	8.03	24.9	17.0	19.8	47.7	19.5	123	157	62.3	3.91	0.65
Max	0.10	81	212	43	27	267	29	256	211	162	11	1.7
Min	0	0.10	8.0	7.1	15	16	14	14	70	13	1.1	0.30
Ac-ft	6.0	473	1,530	1,040	1,100	2,930	1,160	7,550	9,360	3,830	240	39

Cal yr 1966: Total 7,358.70 Mean 20.2 Max 212 Min 0 Ac-ft 14,600
 Wtr yr 1967: Total 14,760.90 Mean 40.4 Max 267 Min 0 Ac-ft 29,280

Peak discharge (base, 125 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-28	1700	4.86	234	5-08	2100	4.31	148
12-06	1300	5.72	409	5-22	1800	5.58	378
3-16	1500	6.04	484	6-17	1800	5.19	296

SAN JOAQUIN RIVER BASIN

695

11-2835. CLAVEY RIVER NEAR BUCK MEADOWS, CALIF.

LOCATION.--Lat 37°54'00", long 120°04'15", in SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.35, T.1 N., R.17 E., on right bank 300 ft upstream from Forest Service road bridge, 1.7 miles downstream from Quilty Creek, and 6 miles north of Buck Meadows Post Office.

DRAINAGE AREA.--144 sq mi.

RECORDS AVAILABLE.--October 1959 to September 1967.

GAGE.--Digital water-stage recorder. Datum of gage is 2,374.08 ft above mean sea level. Prior to Aug. 16, 1966, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--8 years, 227 cfs (164,300 acre-ft per year).

EXTREMES.--Maximum discharge during year, 5,950 cfs Dec. 6 (gage height, 14.76 ft); minimum daily, 8.1 cfs Oct. 1.

1959-67: Maximum discharge, 19,200 cfs Feb. 1, 1963 (gage height, 21.40 ft), from rating curve extended above 2,000 cfs on basis of slope-area measurement of maximum flow; minimum, 3.4 cfs Sept. 7, 8, 1961.

REMARKS.--Records excellent. No storage or diversion above station. See schematic diagram for Tuolumne River basin.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	8.1	9.3	201	113	502	254	547	402	935	731	92	33
2	8.3	9.2	593	109	404	261	510	451	804	683	86	32
3	8.5	9.3	865	108	357	278	483	525	755	626	81	33
4	8.7	9.3	353	107	327	255	493	580	949	557	77	33
5	9.0	9.3	866	108	325	230	478	580	1,160	502	73	33
6	8.9	12	3,590	90	329	226	500	646	947	460	68	31
7	8.8	27	1,340	99	333	234	573	893	1,090	423	65	30
8	8.8	19	590	97	342	257	521	1,250	1,130	395	62	30
9	8.8	15	434	91	342	271	502	1,460	1,120	366	60	29
10	8.6	14	379	93	358	271	513	1,420	1,110	333	57	29
11	8.4	13	332	94	363	262	494	1,070	1,090	317	55	29
12	8.5	13	295	97	359	385	465	901	1,080	317	52	28
13	8.9	13	277	99	377	353	481	879	1,010	312	50	27
14	9.1	13	251	103	367	314	511	999	987	298	47	27
15	9.3	13	231	105	324	322	496	1,370	1,030	285	45	26
16	9.5	148	225	106	305	3,520	454	1,830	1,130	245	44	26
17	9.6	127	217	101	291	3,020	452	2,170	1,210	237	43	25
18	9.6	60	211	99	292	1,750	490	2,250	1,270	224	41	46
19	9.6	42	208	96	295	1,250	471	2,250	1,170	208	40	41
20	9.5	288	208	102	277	990	454	2,540	1,050	188	38	32
21	9.5	202	190	313	265	873	444	2,900	1,060	172	38	30
22	9.7	176	171	377	261	873	430	2,960	1,050	162	37	28
23	9.8	102	165	238	255	848	426	2,790	965	160	36	28
24	9.6	74	153	216	249	759	431	2,560	934	150	35	42
25	9.6	60	147	188	260	693	421	2,300	949	142	40	32
26	9.4	57	139	186	233	636	424	2,070	901	130	71	30
27	9.3	54	115	213	241	601	453	1,940	854	122	59	28
28	9.5	353	125	261	240	802	426	1,870	801	116	45	27
29	9.6	803	130	587	-----	755	403	1,560	811	112	40	27
30	9.4	312	124	722	-----	628	398	1,400	786	106	37	26
31	9.4	-----	115	726	-----	593	-----	1,180	-----	99	34	-----
TOTAL	283.3	3,056.4	13,240	6,044	8,873	22,764	14,144	47,996	30,138	9,178	1,648	918
MEAN	9.14	102	427	195	317	734	471	1,548	1,005	296	53.2	30.6
MAX	9.8	803	3,590	726	502	3,520	573	2,960	1,270	731	92	46
MIN	8.1	9.2	115	90	233	226	398	402	755	99	34	25
AC-FT	562	6,060	26,260	11,990	17,600	45,150	28,050	95,200	59,780	18,200	3,270	1,820

CAL YR 1966: TOTAL 65,218.0 MEAN 179 MAX 3,590 MIN 7.7 AC-FT 129,400
WAT YR 1967: TOTAL 158,282.7 MEAN 434 MAX 3,590 MIN 8.1 AC-FT 313,900

Peak discharge (base, 1,400 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-28	2330	9.57	1,520	5-21	2130	12.84	3,920
12-06	1330	14.76	5,950	6.17	2245	9.93	1,720
3-16	1800	14.62	5,780				

SAN JOAQUIN RIVER BASIN

11-2845. BIG CREEK NEAR GROVELAND, CALIF.

LOCATION.--Lat 37°51'28", long 120°12'02", in NE¼ sec.15, T.1 S., R.16 E., on right bank 0.5 mile downstream from unnamed tributary and 2.0 miles northeast of Groveland.

DRAINAGE AREA.--24.7 sq mi.

RECORDS AVAILABLE.--October 1931 to September 1933, July 1959 to September 1967.

GAGE.--Digital water-stage recorder and concrete control. Altitude of gage is 2,450 ft (from topographic map). Prior to Oct. 10, 1963, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--10 years, 10.9 cfs (7,890 acre-ft per year).

EXTREMES.--Maximum discharge during year, 1,600 cfs Mar. 12 (gage height, 5.39 ft); no flow for several months. 1931-33, 1959-67: Maximum discharge, 4,530 cfs Feb. 1, 1963 (gage height, 7.71 ft), from rating curve extended above 1,500 cfs on basis of slope-area measurement of maximum flow; no flow for several months each year.

Flood of December 1955 reached a stage of 7.6 ft, from floodmarks (discharge, 4,300 cfs).

REMARKS.--Records good. No storage or diversion above station. See schematic diagram for Tuolumne River basin.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0	0	.50	1.5	64	4.6	34	36	12	1.4	.02	0
2	0	0	39	1.5	35	4.4	35	32	9.5	1.2	.01	0
3	0	0	25	1.5	25	4.2	31	29	8.6	1.1	.01	0
4	0	0	9.2	1.5	19	4.2	45	27	7.8	.97	0	0
5	0	0	171	1.7	15	3.8	66	25	8.8	.87	0	0
6	0	0	552	1.5	13	3.6	294	23	8.6	.86	0	0
7	0	0	76	1.4	11	3.6	589	20	8.0	.79	0	0
8	0	0	24	1.4	10	3.5	171	19	7.3	.71	0	0
9	0	0	12	1.9	9.1	3.3	88	20	6.8	.65	0	0
10	0	0	8.8	1.4	8.5	3.3	76	44	6.4	.59	0	0
11	0	0	6.8	1.5	7.7	23	107	24	6.1	.53	0	0
12	0	0	5.2	1.5	7.2	558	86	19	6.0	.46	0	0
13	0	0	4.4	1.4	6.9	377	70	17	5.8	.40	0	0
14	0	0	3.8	1.3	6.8	208	55	16	5.3	.35	0	0
15	0	0	3.3	1.3	6.1	125	65	15	4.9	.33	0	0
16	0	.10	3.0	1.3	5.8	887	51	14	4.7	.35	0	0
17	0	.20	2.7	1.3	5.5	209	50	13	4.5	.28	0	0
18	0	0	2.5	1.2	5.3	88	181	12	4.1	.25	0	0
19	0	.40	2.3	1.2	5.2	53	152	12	4.0	.21	0	0
20	0	8.1	2.2	1.7	4.7	38	129	11	3.8	.19	0	0
21	0	3.3	2.1	47	4.3	30	175	10	3.4	.16	0	0
22	0	17	2.0	197	4.2	25	177	9.8	3.1	.14	0	0
23	0	1.6	1.9	30	4.2	22	162	9.3	2.6	.11	0	0
24	0	.50	1.8	90	4.1	19	170	8.9	2.6	.10	0	0
25	0	.20	2.1	65	12	17	116	8.6	2.4	.11	0	0
26	0	.20	2.6	34	7.9	15	87	8.1	2.1	.08	0	0
27	0	.20	1.9	24	5.7	14	74	8.1	2.0	.08	0	0
28	0	.50	1.8	23	5.0	19	60	8.2	1.8	.08	0	0
29	0	.70	1.8	152	-----	20	49	8.2	1.7	.05	0	0
30	0	.40	1.8	182	-----	17	41	8.0	1.5	.03	0	0
31	0	-----	1.6	158	-----	32	-----	8.9	-----	.03	0	-----
TOTAL	0	33.40	975.10	1,031.0	318.2	2,834.5	3,486	524.1	156.2	13.46	0.04	0
MEAN	0	1.11	31.5	33.3	11.4	91.4	116	16.9	5.21	.43	.001	0
MAX	0	17	552	197	64	887	589	44	12	1.4	.02	0
MIN	0	0	.50	1.2	4.1	3.3	31	8.0	1.5	.03	0	0
AC-FT	0	66	1,930	2,040	631	5,620	6,910	1,040	310	27	.20	0

CAL YR 1966: TOTAL 2,395.10

MEAN 6.56

MAX 552

MIN 0

AC-FT 4,750

WAT YR 1967: TOTAL 9,372.00

MEAN 25.7

MAX 887

MIN 0

AC-FT 18,590

Peak discharge (base, 220 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-6	1115	5.06	1,270	3-16	0930	5.23	1,460
1-22	0100	4.06	598	4-7	0015	4.96	1,220
1-29	1230	3.54	324	4-21	1700	3.33	237
3-12	1800	5.39	1,600				

SAN JOAQUIN RIVER BASIN

697

11-2847. NORTH FORK TUOLUMNE RIVER NEAR LONG BARN, CALIF.

LOCATION.--Lat 38°05'55", long 120°06'00", in NW¼SW¼ sec.22, T.3 N., R.17 E., on right bank 0.6 mile upstream from small tributary 1.5 miles east of Long Barn, and 3.8 miles upstream from Wrights Creek.

DRAINAGE AREA.--23.1 sq mi.

RECORDS AVAILABLE.--August 1962 to September 1967.

GAGE.--Digital water-stage recorder. Altitude of gage is 4,650 ft (from topographic map). Prior to June 9, 1965, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--5 years, 29.0 cfs (21,000 acre-ft per year).

EXTREMES.--Maximum discharge during year, 700 cfs Mar. 16 (gage height, 5.67 ft); minimum daily, 0.6 cfs for many days in October and November.

1962-67: Maximum discharge, 1,570 cfs Feb. 1, 1963 (gage height, 7.23 ft), from rating curve extended above 650 cfs on basis of slope-area measurement at gage height 9.8 ft; minimum daily, 0.2 cfs Sept. 18-25, 1962.

Flood of Dec. 23, 1955, reached a stage of 9.8 ft, from floodmarks (discharge, 2,560 cfs by slope-area measurement).

REMARKS.--Records good. No storage or diversions above station. See schematic diagram for Tuolumne River basin.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	.60	.60	13	14	93	28	85	55	129	27	4.4	2.1
2	.60	.60	103	19	73	28	78	68	111	24	4.2	2.0
3	.60	.60	89	15	62	29	74	84	99	22	4.1	2.3
4	.70	.60	40	9.5	56	28	73	96	99	20	3.9	2.2
5	.70	.60	141	8.9	54	29	70	99	112	15	3.7	2.2
6	.60	1.9	348	8.9	52	26	70	115	108	17	3.6	2.1
7	.60	2.6	134	8.7	52	26	71	145	104	16	3.5	2.0
8	.70	1.6	72	8.5	52	26	66	180	103	15	3.4	1.9
9	.70	1.3	53	8.3	51	26	70	201	104	14	3.3	2.5
10	.60	1.1	48	8.0	51	27	72	235	102	13	3.2	2.1
11	.60	1.0	39	7.7	51	25	68	195	100	12	3.1	1.8
12	.60	.90	33	7.6	51	31	66	172	97	11	2.9	1.8
13	.70	.90	29	7.4	54	28	71	167	93	11	2.7	1.7
14	.70	.90	26	7.3	54	30	75	178	87	10	2.7	1.7
15	.70	1.8	23	7.1	48	37	70	208	84	5.6	2.5	1.6
16	.80	18	21	7.8	45	452	66	237	84	9.3	2.4	1.6
17	.80	6.3	20	14	43	357	66	264	83	8.8	2.3	1.7
18	.80	3.5	19	11	41	221	69	283	82	8.3	2.3	3.8
19	.80	7.0	18	8.4	39	175	63	275	79	7.8	2.2	2.6
20	.80	39	17	11	37	152	60	288	72	7.4	2.0	2.1
21	.80	16	16	45	37	142	57	320	66	6.8	2.0	2.0
22	.80	13	15	33	33	137	54	328	61	6.6	2.0	2.0
23	.80	8.5	15	24	31	139	53	316	56	6.3	1.9	2.3
24	.80	6.4	16	18	30	129	53	290	51	6.1	2.6	2.7
25	.80	6.7	15	19	32	115	53	261	48	5.8	5.5	2.2
26	.80	4.9	14	20	29	104	57	232	44	5.6	6.7	2.0
27	.80	4.6	14	24	28	97	61	210	39	5.4	2.9	1.9
28	.80	26	14	33	28	121	56	200	36	5.3	2.5	1.8
29	.80	29	14	127	-----	115	53	185	32	5.1	2.3	1.8
30	.80	15	15	160	-----	100	52	165	30	4.9	2.2	1.8
31	.70	-----	15	142	-----	94	-----	147	-----	4.6	2.1	-----
TOTAL	22.40	220.90	1,449	843.1	1,307	3,074	1,952	6,199	2,395	344.7	95.1	62.3
MEAN	.72	7.36	46.7	27.2	46.7	99.2	65.1	200	79.8	11.1	3.07	2.08
MAX	.80	39	348	160	93	452	85	328	129	27	6.7	3.8
MIN	.60	.60	13	7.1	28	25	52	55	30	4.6	1.9	1.6
AC-FT	44	438	2,870	1,670	2,590	6,100	3,870	12,300	4,750	684	189	124

CAL YR 1966: TOTAL 6,006.90 MEAN 16.5 MAX 348 MIN .30 AC-FT 11,910
WAT YR 1967: TOTAL 17,964.50 MEAN 49.2 MAX 452 MIN .60 AC-FT 35,630

Peak discharge (base, 150 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-02	2200	4.51	261	3-16	1745	5.67	700
12-06	1415	5.45	595	5-22	2400	4.83	371
1-30	2000	4.43	238				

SAN JOAQUIN RIVER BASIN

11-2865. WOODS CREEK NEAR JACKSONVILLE, CALIF.

LOCATION.--Lat 37°51'30", long 120°23'45", in SE $\frac{1}{4}$ sec.11, T.1 S., R.14 E., on right bank 200 ft downstream from Blue Gulch, 1.5 miles upstream from mouth, and 1.5 miles northwest of Jacksonville.

DRAINAGE AREA.--97.2 sq mi.

RECORDS AVAILABLE.--October 1925 to September 1967.

GAGE.--Digital water-stage recorder. Datum of gage is 653.65 ft above mean sea level. Prior to Oct. 1, 1947, graphic water-stage recorder at datum 2.00 ft higher. Oct. 1, 1947, to Oct. 11, 1963, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--42 years, 60.7 cfs (43,900 acre-ft per year); median of yearly mean discharges, 48 cfs (34,800 acre-ft per year).

EXTREMES.--Maximum discharge during year, 5,340 cfs Jan. 22 (gage height, 10.53 ft); no flow for many days. 1925-67: Maximum discharge, 14,400 cfs Dec. 23, 1955 (gage height, 14.66 ft), from rating curve extended above 4,600 cfs on basis of slope-area measurement of maximum flow; no flow for parts of most years.

REMARKS.--Records good except those for period of no gage-height record, which are poor. At times less than 10 cfs from Tuolumne Canal (see sta. no. 2975) is discharged into Woods Creek above the station. See schematic diagram for Tuolumne River basin.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0	.10	23	22	298	44	140	170	70	14	4.6	.50
2	0	.30	817	25	159	44	170	153	58	14	4.0	.41
3	0	.50	656	29	129	43	140	139	55	13	3.0	.36
4	0	.50	146	38	112	43	160	128	51	11	2.4	.31
5	0	.50	1,180	39	102	38	250	124	59	10	2.1	.27
6	0	1.2	2,370	38	94	36	400	114	64	11	5.0	.32
7	0	17	407	23	85	38	2,100	107	58	7.9	5.5	.43
8	0	7.2	168	26	75	37	600	99	60	6.5	2.5	.43
9	0	4.7	94	33	72	36	300	102	58	6.6	1.9	.39
10	0	3.9	95	35	69	36	264	331	52	6.8	1.5	.41
11	0	4.0	99	34	62	119	618	152	51	6.6	1.3	.45
12	0	4.7	60	34	60	808	398	116	53	5.9	1.1	.46
13	0	5.0	63	35	58	789	251	102	49	4.0	1.1	.50
14	0	5.0	62	32	56	515	194	95	33	7.5	1.0	.50
15	0	6.0	57	30	34	241	234	87	32	8.4	.93	.46
16	0	47	46	30	34	2,030	203	81	31	8.1	.85	.42
17	0	50	44	30	39	879	164	78	29	7.8	.79	.42
18	0	21	43	30	48	306	1,450	67	34	5.6	.66	.60
19	0	13	26	30	47	205	787	43	36	9.2	.62	1.1
20	0	59	24	31	45	157	519	42	32	8.8	.58	1.6
21	0	56	21	301	44	128	933	42	25	7.5	.66	1.5
22	0	221	20	1,700	44	111	736	42	22	7.2	.68	1.3
23	0	63	20	226	44	104	510	41	21	6.0	.56	1.5
24	0	52	21	484	45	93	688	41	21	5.7	.50	1.7
25	0	34	22	504	78	86	411	40	21	5.2	.47	1.7
26	0	21	33	226	75	82	309	40	20	5.2	.47	1.6
27	0	17	26	175	53	80	275	39	20	5.4	.44	1.6
28	0	19	24	161	45	90	240	39	19	5.4	.43	1.4
29	0	26	21	787	-----	110	204	38	17	5.7	.48	1.3
30	0	18	20	865	-----	110	189	38	15	5.2	.52	1.6
31	0	-----	19	599	-----	120	-----	43	-----	4.8	.51	-----
TOTAL	0	777.60	6,727	6,652	2,106	7,558	13,837	2,773	1,166	240.0	55.15	25.54
MEAN	0	25.9	217	215	75.2	244	461	89.5	38.9	7.74	1.78	.85
MAX	0	221	2,370	1,700	298	2,030	2,100	331	70	14	9.5	1.7
MIN	0	.10	19	22	34	36	140	38	15	4.0	.43	.27
AC-FT	0	1,540	13,340	13,190	4,180	14,990	27,450	5,500	2,310	476	109	51

CAL YR 1966: TOTAL 16,328.90

MEAN 44.7

MAX 2,370

MIN 0

AC-FT 32,390

WAT YR 1967: TOTAL 41,917.29

MEAN 115

MAX 2,370

MIN 0

AC-FT 83,140

Peak discharge (base, 900 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-06	1130	9.82	4,440	3-12	1915	7.39	1,910
1-22	0245	10.53	5,340	3-16	1000	9.49	3,990
1-24	1600	6.21	1,120	4-07	-----	10.33	5,060
1-29	1200	7.56	2,050	4-18	0500	8.52	2,910

Note.--No gage-height record Oct. 1 to Nov. 3.

11-2875. DON PEDRO RESERVOIR NEAR LA GRANGE, CALIF.

LOCATION.--Lat 37°42'48", long 120°24'14", in SW $\frac{1}{4}$ sec.35, T.2 S., R.14 E., 300 ft from left bank on upstream face of Don Pedro Dam on Tuolumne River, 1 mile downstream from Rogers Creek, and 5.5 miles upstream from La Grange.

DRAINAGE AREA.--1,530 sq mi.

RECORDS AVAILABLE.--September 1923 to September 1967. 1923-24 (year-end contents only) and October 1924 to September 1930 month-end contents, published in WSP 1315-A.

GAGE.--Graphic water-stage recorder. Datum of gage is at mean sea level (levels by Turlock Irrigation District). Prior to Feb. 1, 1941, staff gage at same site and datum.

EXTREMES.--Maximum contents during year, 290,800 acre-ft July 15, 22, 26 (elevation, 605.7 ft); minimum, 72,400 acre-ft Dec. 31 (elevation, 518.0 ft).

1924-67: Maximum contents, 292,100 acre-ft June 13, 1937 (elevation, 606.1 ft); minimum, 29,200 acre-ft Sept. 1-3, 5, 1934; minimum elevation, 475.0 ft Sept. 1, 2, 1934.

REMARKS.--Reservoir is formed by concrete gravity-type dam, completed Jan. 1, 1923; storage began Nov. 14, 1922. Total capacity, 290,400 acre-ft at elevation 605.55 ft (top of drum type spillway gates), of which 30,000 acre-ft below elevation 476 ft (mutually agreed-upon minimum) is not available for release. Water passes through powerplant at dam and down Tuolumne River to La Grange Dam, 4 miles downstream, where it is diverted into Turlock and Modesto Canals for irrigation. This reservoir is operated jointly by Turlock and Modesto Irrigation Districts. Figures given herein represent total contents. See schematic diagram of Tuolumne River basin.

COOPERATION.--Gage-height record furnished by Turlock and Modesto Irrigation Districts.

CAPACITY TABLE (ELEVATION, IN FEET, AND CONTENTS, IN ACRE-FEET)

476	30,000	510	64,200	550	135,800	590	242,400
480	33,000	520	78,100	560	159,900	600	272,900
490	41,900	530	94,100	570	185,600	607	295,000
500	52,200	540	113,500	580	213,400		

CONTENTS, IN THOUSANDS OF ACRE-FEET, AT 2400 HOURS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	86.9	93.6	94.0	72.9	168.4	159.9	194.6	172.3	189.7	266.1	290.5	234.8
2	87.4	92.7	96.6	73.5	170.0	160.9	188.3	172.8	191.3	265.5	290.5	232.4
3	86.5	92.1	103.6	72.8	171.0	161.6	184.8	173.6	188.9	266.1	289.3	230.1
4	86.1	91.4	104.2	73.7	171.0	163.4	186.7	174.6	190.0	265.5	288.0	226.9
5	85.4	90.7	112.4	74.1	170.7	165.2	188.3	175.4	192.1	266.1	286.7	224.3
6	85.1	90.4	140.5	74.7	170.7	166.4	187.5	175.9	194.3	266.1	285.1	222.0
7	84.7	89.7	142.9	75.8	170.2	166.9	195.4	176.9	198.2	266.1	283.6	219.6
8	84.9	89.3	136.7	77.0	170.2	167.4	193.0	178.8	203.2	266.7	282.0	217.3
9	85.6	89.2	128.6	77.3	170.0	167.8	188.3	180.6	206.6	265.8	280.4	214.8
10	84.5	88.8	123.2	78.3	169.7	167.2	185.9	180.3	211.1	262.7	278.5	211.9
11	84.7	88.8	120.6	79.2	169.2	168.2	187.5	176.4	214.8	265.1	277.0	209.0
12	84.9	88.8	118.6	80.2	168.4	176.2	184.6	175.6	218.2	270.7	275.1	206.8
13	84.9	89.0	117.3	81.3	168.2	184.6	178.8	177.2	223.7	277.9	272.9	204.3
14	84.9	88.0	115.6	82.5	168.2	188.9	177.2	177.7	233.0	285.8	271.7	201.8
15	85.8	87.5	113.5	83.6	167.8	184.8	178.2	178.2	243.6	290.8	270.1	199.3
16	86.7	87.8	111.0	84.2	166.7	203.5	179.0	178.8	248.4	290.5	268.2	196.5
17	86.5	88.3	108.1	85.3	165.2	212.2	179.8	178.8	252.0	290.5	266.4	193.5
18	87.0	88.5	105.1	86.2	163.9	211.4	184.0	179.3	256.0	290.5	264.5	190.8
19	87.5	88.5	101.8	87.0	162.6	207.1	181.4	178.8	258.7	290.2	262.7	188.3
20	88.0	89.7	98.9	88.3	161.4	201.5	176.7	179.0	260.5	290.5	260.2	185.6
21	88.5	90.2	96.3	92.4	159.9	195.2	176.4	179.0	262.4	290.5	257.8	183.0
22	89.2	91.9	93.1	105.7	158.9	192.4	174.6	179.0	264.5	290.8	256.0	180.1
23	90.0	91.9	90.2	109.7	157.9	193.5	174.6	178.8	265.1	290.5	253.8	176.9
24	90.4	92.2	87.0	114.9	157.9	194.1	173.6	178.2	265.1	290.5	252.0	173.8
25	90.7	91.9	83.7	120.6	158.4	196.0	172.5	178.2	265.1	290.5	249.9	170.2
26	91.4	91.5	80.1	124.1	158.9	197.4	173.1	178.8	265.5	290.8	247.8	167.4
27	91.7	91.5	77.4	128.0	158.9	198.7	173.3	179.3	265.1	290.5	245.4	164.9
28	92.4	90.5	76.1	132.1	158.9	201.2	172.5	183.5	265.5	290.2	243.0	163.4
29	93.1	93.1	74.3	142.2	-----	204.3	172.3	185.1	265.8	290.5	241.0	162.4
30	93.8	94.1	72.9	154.3	-----	204.6	172.5	185.9	266.4	290.2	238.9	160.9
31	94.1	-----	72.4	165.2	-----	200.4	-----	187.0	-----	289.9	236.8	-----
(+)	530.0	530.0	516.0	562.1	559.6	575.4	565.0	570.5	597.9	605.4	588.1	560.4
(+)	+6,700	0	-21,700	+92,800	-6,300	+41,500	-27,900	+14,500	+79,400	+23,500	-53,100	-75,900
Max	94.1	94.1	142.9	165.2	171.0	212.2	195.4	187.0	266.4	290.8	290.5	234.8
Min	84.7	87.5	72.4	72.8	157.9	159.9	172.3	172.3	189.7	262.7	236.8	160.9

Cal yr 1966..... +16,900
Wat yr 1967..... +73,500

† Elevation, in feet, at end of month.
‡ Change in contents, in acre-feet.

SAN JOAQUIN RIVER BASIN

11-2880. TUOLUMNE RIVER ABOVE LA GRANGE DAM, NEAR LA GRANGE, CALIF.

LOCATION.--Lat 37°42'35", long 120°24'45", in NE $\frac{1}{4}$ sec.3, T.3 S., R.14E., on left bank 0.5 mile downstream from Don Pedro Dam, 3.5 miles upstream from La Grange Dam, and 5 miles upstream from La Grange.

DRAINAGE AREA.--1,532 sq mi.

RECORDS AVAILABLE.--August 1895 to September 1967. Monthly discharge only for some periods, published in WSP 1315-A. Published as "at La Grange," 1895-1912, as "near La Grange" or "at La Grange Dam, near La Grange," 1913-17. August 1895 to September 1917 at La Grange Dam, 3.5 miles downstream, records equivalent if flow of Sierra and San Francisco Power Co.'s canal (abandoned in 1926) and Modesto and Turlock Canals is added to flow at La Grange Dam.

GAGE.--Digital water-stage recorder. Altitude of gage is 330 ft (from topographic map). Prior to Mar. 31, 1908, and Sept. 25 to Dec. 5, 1908, staff gage at site 5 miles downstream below point of re-entrance of Sierra and San Francisco Power Co.'s canal, at different datum. Apr. 1 to Sept. 24, 1908, and Dec. 5, 1908, to Feb. 29, 1916, staff gage at site 3.5 miles downstream at La Grange Dam, diversion point of Turlock and Modesto Canals, at different datum. Mar. 1, 1916 to Dec. 20, 1962, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--71 years (1896-1967), 2,532 cfs (1,833,000 acre-ft per year), adjusted for Hetch Hetchy diversion to San Francisco.

EXTREMES.--Maximum discharge during year, 10,800 cfs June 30 (gage height, 15.47 ft); minimum daily, 290 cfs Oct. 30.

1895-1967: Maximum discharge, 61,000 cfs Dec. 8, 1950 (gage height, 43.8 ft); minimum daily, 2.1 cfs Dec. 27, 1922.

REMARKS.--Records excellent. Flow regulated by Don Pedro powerplant, Don Pedro Reservoir (see sta. no. 2875), Hetch Hetchy Reservoir (see sta. no. 2755), Cherry Lake (see sta. no. 2772), and Lake Eleanor (see sta. no. 2775). Tuolumne Canal (see sta. no. 2975) diverts water from the Stanislaus River basin into the Tuolumne River basin for power, irrigation, and domestic supply in the vicinity of Sonora upstream from station. Diversion through Hetch Hetchy aqueduct to San Francisco began Oct. 19, 1934; an average of 288 cfs was diverted during 1967 water year. See schematic diagram of Tuolumne River basin.

COOPERATION.--Twelve discharge measurements furnished by city and county of San Francisco.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1,170	1,300	1,470	925	2,460	2,130	6,820	3,850	7,560	10,500	2,230	2,380
2	678	1,280	1,680	943	2,600	2,180	6,700	3,540	7,580	10,100	2,250	2,380
3	1,360	1,260	1,380	1,430	2,430	2,210	5,110	3,550	7,580	9,930	2,240	2,380
4	1,400	1,220	1,680	1,230	2,680	1,840	3,460	3,550	7,550	9,960	2,240	2,400
5	1,430	1,070	2,570	1,160	2,650	1,510	4,110	3,540	7,540	9,770	2,240	2,410
6	1,370	1,020	3,320	1,110	2,490	1,860	6,630	3,530	7,330	10,100	2,250	2,430
7	1,260	1,330	5,490	843	2,670	1,790	7,570	3,460	6,330	10,100	2,250	2,430
8	1,040	1,260	6,520	761	2,510	1,720	7,560	3,760	6,390	9,030	2,240	2,420
9	750	1,230	6,610	1,040	2,680	1,770	7,410	4,710	6,680	7,020	2,240	2,440
10	1,340	1,160	5,020	950	2,690	1,980	6,340	6,610	6,860	7,490	2,250	2,460
11	1,010	947	3,370	951	2,690	1,700	5,440	7,400	7,130	5,080	2,260	2,470
12	1,040	828	2,930	872	2,650	1,450	6,310	4,970	7,260	3,330	2,260	2,480
13	1,150	763	2,730	900	2,380	1,990	7,290	3,570	6,310	3,330	2,260	2,470
14	1,090	1,180	2,800	765	2,500	2,510	5,240	3,890	4,200	3,330	2,260	2,500
15	732	1,280	2,790	746	2,610	5,410	3,720	4,580	4,240	5,560	2,270	2,510
16	502	1,140	2,800	879	2,710	7,510	3,590	5,440	7,090	7,560	2,280	2,530
17	897	1,160	2,790	900	2,700	7,660	3,420	5,920	8,010	7,660	2,280	2,520
18	866	1,080	2,830	951	2,670	7,690	5,700	6,180	8,050	6,880	2,290	2,540
19	892	1,090	2,820	978	2,640	7,610	7,440	6,680	8,780	6,020	2,290	2,550
20	895	814	2,870	994	2,610	7,580	7,410	6,160	9,140	4,690	2,280	2,570
21	851	1,190	2,880	805	2,680	7,550	6,940	6,920	9,170	4,430	2,300	2,570
22	622	1,180	2,890	710	2,700	5,490	7,010	7,240	9,020	4,250	2,300	2,600
23	354	1,420	2,910	960	2,620	3,380	5,600	7,240	9,520	4,090	2,310	2,600
24	811	971	2,940	960	2,330	3,170	6,230	7,160	9,670	4,770	2,310	2,630
25	894	1,160	2,960	840	2,120	2,550	5,550	6,700	9,640	3,350	2,330	2,640
26	859	1,180	2,990	988	1,890	2,420	5,080	5,960	9,630	2,440	2,330	2,640
27	883	1,050	2,530	771	2,210	2,460	5,040	6,450	9,720	2,630	2,330	2,540
28	840	1,320	2,010	710	2,150	2,490	5,080	6,730	9,670	2,690	2,350	2,010
29	551	1,190	2,110	701	-----	2,550	4,430	7,190	9,930	2,340	2,350	1,740
30	290	1,200	2,060	1,210	-----	3,600	3,910	7,530	10,500	2,320	2,360	1,980
31	778	-----	1,500	1,270	-----	6,180	-----	7,520	-----	2,260	2,370	-----
TOTAL	28,605	34,273	92,250	29,253	70,720	111,940	172,140	171,530	238,080	183,010	70,800	73,220
MEAN	923	1,142	2,976	944	2,526	3,611	5,738	5,533	7,936	5,904	2,284	2,441
MAX	1,430	1,420	6,610	1,430	2,710	7,690	7,570	7,530	10,500	10,500	2,370	2,640
MIN	290	763	1,380	701	1,890	1,450	3,420	3,460	4,200	2,260	2,230	1,740
AC-FT	56,740	67,980	183,000	58,020	140,300	222,000	341,400	340,200	472,200	363,000	140,400	145,200

CAL YR 1966: TOTAL 655,598

MEAN 1,796

MAX 6,610

MIN 290

AC-FT 1,300,000

WAT YR 1967: TOTAL 1,275,821

MEAN 3,495

MAX 10,500

MIN 290

AC-FT 2,531,000

11-2890. MODESTO CANAL NEAR LA GRANGE, CALIF.

LOCATION.--Lat 37°40'04", long 120°27'26", in SW $\frac{1}{4}$ sec.17, T.3 S., R.14 E., on right bank 0.5 mile northeast of La Grange and 1 mile downstream from intake at La Grange Dam.

RECORDS AVAILABLE.--April 1903 to September 1967. Monthly discharge only for some periods, published in WSP 1315-A.

GAGE.--Digital water-stage recorder and since Mar. 19, 1963, V-notch sharp-crested weir. Datum of gage is 272.4 ft above mean sea level (levels by Modesto Irrigation District). Prior to July 1904, staff gage at approximately present site at different datum. July 1904 to March 1920, staff gage in concrete well 0.9 mile upstream and 460 ft below intake, set by water surface elevation to read same as previous gage. March 1920 to February 1924, staff gage and February 1924 to March 1932, graphic water-stage recorder, 0.9 mile upstream and 500 ft below intake at different datum. March 1932 to May 23, 1963, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--64 years, 396 cfs (286,700 acre-ft per year).

EXTREMES.--1903-67: Maximum daily discharge, 1,820 cfs July 1, 1935; no flow at times.

REMARKS.--Records excellent. Canal diverts from right bank of Tuolumne River at La Grange Dam for irrigation in Modesto and Waterford Irrigation Districts. See schematic diagram of Tuolumne River basin.

COOPERATION.--Twelve discharge measurements furnished by city and county of San Francisco.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	309	3.8	355	0.40	0.30	0.30	404	269	1,380	1,090	786	730
2	317	3.8	388	0.40	0.30	115	403	267	1,380	1,090	796	731
3	323	3.8	390	0.40	0.30	251	393	267	1,390	1,080	555	733
4	383	3.8	390	0.40	0.30	248	381	267	1,390	1,090	794	736
5	356	3.6	929	0.40	0.30	240	454	337	1,050	1,080	791	739
6	451	3.8	1,540	0.30	0.30	237	526	375	857	1,120	800	762
7	402	3.8	1,610	0.30	0.30	239	508	374	842	1,140	803	786
8	306	3.8	1,590	0.30	0.30	237	499	373	843	1,130	793	785
9	324	3.8	945	0.30	0.30	235	498	524	855	1,120	793	789
10	360	3.6	5.0	0.30	0.30	245	491	600	858	1,240	795	789
11	384	4.0	0.90	0.30	0.30	246	484	607	865	1,290	797	786
12	383	3.6	0.80	0.30	0.30	243	490	727	864	1,280	798	780
13	344	3.6	0.70	0.30	0.30	113	500	805	920	1,310	797	784
14	296	3.6	0.70	0.30	0.30	32	425	815	930	1,250	796	790
15	106	3.8	0.70	0.30	0.30	34	375	828	1,030	1,360	798	787
16	3.9	3.8	0.60	0.30	0.30	35	373	842	1,150	1,580	802	790
17	3.9	3.6	0.60	0.30	0.30	34	371	846	1,170	1,450	802	782
18	3.9	3.4	0.60	0.30	0.30	34	384	849	1,170	1,330	803	785
19	4.2	3.3	0.50	0.30	0.30	34	394	989	1,180	1,110	805	788
20	4.2	3.3	0.50	0.40	0.30	34	394	1,040	1,180	952	804	787
21	4.2	3.4	0.50	0.40	0.30	34	392	1,050	1,180	1,020	806	787
22	3.9	54	0.50	0.50	0.30	32	392	1,240	1,250	1,060	791	790
23	2.8	223	0.50	0.30	0.30	31	384	1,360	1,290	1,060	779	788
24	3.9	183	0.50	0.50	0.30	31	388	1,360	1,290	1,110	779	789
25	4.0	212	0.50	0.20	0.50	30	313	1,350	1,290	996	765	785
26	3.9	197	0.50	0.20	0.30	76	274	1,330	1,290	860	779	785
27	3.8	198	0.40	0.20	0.30	212	274	1,350	1,290	875	775	1,160
28	3.9	220	0.40	0.30	0.30	211	274	1,360	1,280	891	761	1,120
29	3.6	210	0.40	0.50	-----	211	272	1,370	1,170	807	731	769
30	1.6	257	0.40	0.70	-----	268	269	1,380	1,080	792	725	745
31	3.4	-----	0.40	0.40	-----	398	-----	1,380	-----	795	731	-----
TOTAL	5,103.1	1,831.0	8,153.60	10.80	8.60	4,420.30	11,979	26,531	33,714	34,358	24,130	23,957
MEAN	165	61.0	263	.35	.31	143	399	856	1,124	1,108	778	799
MAX	451	257	1,610	.70	.50	398	526	1,380	1,390	1,580	806	1,160
MIN	1.6	3.3	.40	.20	.30	.30	269	267	842	792	555	730
AC-FT	10,120	3,630	16,170	21	17	8,770	23,760	52,620	66,870	68,150	47,860	47,520

CAL YR 1966: TOTAL 142,565.90 MEAN 391 MAX 1,610 MIN .10 AC-FT 282,800
WAT YR 1967: TOTAL 174,196.40 MEAN 477 MAX 1,610 MIN .20 AC-FT 345,500

SAN JOAQUIN RIVER BASIN

11-2895. TURLOCK CANAL NEAR LA GRANGE, CALIF.

LOCATION.--Lat 37°40'00", long 120°26'25", in NE¼NW¼ sec.21, T.3 S., R.14 E., on right bank 2,400 ft downstream from intake at La Grange Dam and 1.2 miles east of La Grange.

RECORDS AVAILABLE.--October 1898 to September 1967. Monthly discharge only for some periods, published in WSP 1315-A.

GAGE.--Digital water-stage recorder and concrete control. Altitude of gage is 265 ft (from topographic map). July 1, 1899 to Sept. 14, 1915, staff gage at different sites and datums near canal intake. Sept. 15, 1915 to Apr. 15, 1924, staff gage and Apr. 16, 1924, to winter of 1936-37, graphic water-stage recorder, both at present site at datum 0.25 ft higher. Winter of 1936-37 to Dec. 20, 1962, graphic water-stage recorder at present site and datum.

AVERAGE DISCHARGE.--69 years, 591 cfs (427,900 acre-ft per year).

EXTREMES.--1898-1967: Maximum daily discharge, 2,280 cfs June 12, 1949; no diversion for irrigation during some periods in some years. Prior to 1939, unmeasured small discharge during winter called zero; no flow Nov. 5, 6, 1961, Dec. 12-14, 23-26, 1962, Feb. 25 to Mar. 2, 1966.

REMARKS.--Records excellent. Canal diverts from left bank of Tuolumne River at La Grange Dam for irrigation in Turlock Irrigation District and to supply town of La Grange. During fall and winter some unmeasured flow is diverted from canal at tunnel 0.3 mile above gage, passed through La Grange powerplant and returned to river. See schematic diagram of Tuolumne River basin.

COOPERATION.--Twelve discharge measurements furnished by city and county of San Francisco.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	729	737	415	32	34	37	951	511	1,780	1,840	1,470	1,650
2	311	578	643	32	35	37	952	509	1,780	1,830	1,470	1,650
3	951	591	317	33	34	37	962	510	1,780	1,830	1,690	1,650
4	926	536	606	32	34	298	979	511	1,780	1,830	1,470	1,660
5	991	377	479	32	34	487	983	511	1,790	1,830	1,470	1,670
6	850	325	45	32	34	492	982	511	1,790	1,920	1,460	1,530
7	809	623	46	32	34	483	970	511	1,760	1,980	1,470	1,640
8	618	573	41	32	34	484	969	932	1,760	1,950	1,470	1,640
9	332	546	37	33	34	329	968	1,260	1,370	1,880	1,470	1,650
10	494	484	35	33	35	106	967	1,250	1,150	1,890	1,480	1,670
11	179	265	34	33	35	105	979	1,250	1,170	1,820	1,480	1,680
12	215	151	34	33	35	104	700	1,240	1,280	1,920	1,490	1,700
13	339	220	34	33	35	106	518	1,230	1,350	1,910	1,490	1,690
14	316	504	34	33	35	108	506	1,240	1,330	1,880	1,480	1,710
15	157	554	34	33	35	111	502	1,260	1,450	2,120	1,490	1,720
16	36	464	34	33	35	128	503	1,280	1,520	2,180	1,500	1,740
17	290	486	35	32	35	138	503	1,590	1,510	2,140	1,500	1,740
18	135	539	35	32	35	134	517	1,750	1,510	2,120	1,500	1,750
19	213	959	35	32	36	136	514	1,760	1,640	2,130	1,500	1,760
20	211	756	34	32	36	173	514	1,750	1,710	2,180	1,500	1,780
21	167	618	34	32	36	249	513	1,770	1,710	2,220	1,510	1,780
22	36	436	34	33	36	263	513	1,780	1,710	2,190	1,530	1,810
23	29	629	34	33	37	281	507	1,770	1,720	2,210	1,540	1,810
24	248	743	34	33	37	285	513	1,770	1,720	2,190	1,550	1,840
25	391	502	34	33	36	287	510	1,760	1,720	1,950	1,570	1,850
26	412	896	34	33	36	288	508	1,740	1,720	1,590	1,560	1,850
27	440	736	34	32	36	351	510	1,750	1,720	1,700	1,570	677
28	382	596	34	31	36	511	515	1,760	1,790	1,730	1,600	612
29	205	289	34	32	-----	511	513	1,770	1,840	1,530	1,640	972
30	232	306	34	33	-----	1,080	510	1,790	1,840	1,530	1,640	1,230
31	220	-----	33	34	-----	1,220	-----	1,780	-----	1,460	1,640	-----
TOTAL	11,864	16,019	3,380	1,008	984	9,359	20,551	40,806	48,700	59,480	47,200	48,111
MEAN	383	534	109	32.5	35.1	302	685	1,316	1,623	1,919	1,523	1,604
MAX	991	959	643	34	37	1,220	983	1,790	1,840	2,220	1,690	1,850
MIN	29	151	33	31	34	37	502	509	1,150	1,460	1,460	612
AC-FT	23,530	31,770	6,700	2,000	1,950	18,560	40,760	80,940	96,590	118,000	93,620	95,430

CAL YR 1966: TOTAL 273,025.30 MEAN 748 MAX 1,600 MIN 0 AC-FT 541,500
WAT YR 1967: TOTAL 307,462 MEAN 842 MAX 2,220 MIN 29 AC-FT 609,800

SAN JOAQUIN RIVER BASIN

703

11-2900. TUOLUMNE RIVER AT MODESTO, CALIF.

LOCATION.--Lat 37°37'38", long 120°59'20", in SW¼ sec.33, T.3 S., R.9 E., on left bank at bridge on U.S. Highway 99 in Modesto and 0.2 mile downstream from Dry Creek.

DRAINAGE AREA.--1,884 sq mi.

RECORDS AVAILABLE.--1878-84, 1891-94, 1897 (gage heights only), January 1895 to December 1896, April 1940 to September 1967. Monthly discharge only for some periods, published in WSP 1315-A.

GAGE.--Digital water-stage recorder. Datum of gage is at mean sea level, unadjusted (levels by Modesto Irrigation District). Prior to July 11, 1947, graphic water-stage recorder at site 1,700 ft downstream at same datum, July 11, 1947, to Nov. 16, 1953, graphic water-stage recorder at site 1,000 ft downstream at same datum, Nov. 16, 1953, to July 15, 1964, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--28 years (1895-96, 1940-67), 1,440 cfs (1,043,000 acre-ft per year).

EXTREMES.--Maximum discharge during year, 8,370 cfs Apr. 22 (elevation, 52.70 ft); minimum daily, 248 cfs Sept. 18.

1895-96, 1940-67: Maximum discharge observed, 57,000 cfs Dec. 9, 1950 (elevation, 89.19 ft); minimum, 85 cfs Oct. 25, 1961.

REMARKS.--Records good. Flow regulated by reservoirs and powerplants above station. In addition to diversions into Modesto and Turlock Canals (see sta. nos. 2890 and 2895), there are diversions for irrigation of about 1,300 acres between stations above LaGrange Dam and at Modesto. See REMARKS for sta. no. 2880 for Tuolumne River above LaGrange Dam. Records of water temperatures for the water year 1967 are published in Part 2 of this report. See schematic diagram for Tuolumne River basin.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	250	367	719	1,660	2,450	2,190	4,970	3,890	4,540	7,490	301	267
2	287	593	740	1,150	2,600	2,170	5,780	3,640	4,630	7,540	334	290
3	316	773	764	1,100	2,730	2,080	5,780	3,370	4,670	7,240	311	262
4	315	783	792	1,450	2,580	1,990	4,090	3,310	4,640	7,100	306	276
5	282	788	833	1,370	2,750	1,510	2,760	3,080	4,650	7,060	294	269
6	260.	800	1,140	1,290	2,720	1,140	3,400	2,900	5,050	6,990	309	257
7	280	819	3,010	1,250	2,620	1,290	5,760	2,870	4,840	7,100	312	296
8	250	803	3,880	1,010	2,730	1,270	7,290	2,790	3,920	7,070	280	327
9	274	789	4,610	897	2,610	1,200	6,810	2,730	4,030	5,930	285	291
10	266	777	5,620	1,100	2,740	1,330	6,450	3,220	4,450	4,090	280	279
11	392	776	4,980	1,070	2,760	1,660	5,870	4,900	5,130	4,490	265	309
12	594	775	3,640	1,060	2,740	1,510	5,860	5,480	5,220	2,040	270	298
13	592	766	3,160	989	2,700	1,340	6,050	3,170	5,330	670	307	294
14	591	628	2,960	1,000	2,510	1,880	6,540	1,910	4,080	535	260	273
15	622	734	2,960	880	2,600	2,750	4,780	2,180	2,160	488	270	271
16	722	786	2,950	845	2,670	5,440	3,690	2,720	2,130	2,220	276	290
17	751	775	2,950	943	2,750	7,580	3,390	3,400	4,370	3,480	258	267
18	745	757	2,930	991	2,740	7,860	3,400	3,470	5,150	4,000	267	248
19	818	719	2,950	1,030	2,710	7,670	6,410	3,660	5,220	3,340	254	263
20	839	415	2,960	1,080	2,670	7,560	7,200	3,860	5,830	2,680	271	284
21	839	284	2,980	1,140	2,660	7,460	6,960	3,400	6,120	1,660	273	280
22	825	441	2,990	1,250	2,700	7,300	7,690	4,210	6,140	1,300	276	281
23	803	752	2,990	2,000	2,720	5,210	7,180	4,200	5,990	1,050	290	291
24	577	719	3,010	1,390	2,560	3,510	5,930	4,100	6,400	919	306	289
25	559	379	3,040	2,400	2,390	3,090	6,220	4,040	6,610	1,290	301	262
26	565	371	3,060	1,810	2,170	2,590	5,490	3,590	6,620	714	258	267
27	555	327	3,090	1,360	1,880	2,400	5,030	3,030	6,620	526	271	284
28	538	232	2,600	1,100	2,220	2,220	4,950	3,450	6,700	393	271	625
29	529	364	2,210	1,000	-----	2,140	4,930	3,650	6,640	381	270	715
30	531	673	2,280	2,070	-----	2,220	4,230	4,130	6,940	360	280	477
31	351	-----	2,200	3,030	-----	2,810	-----	4,410	-----	336	265	-----
TOTAL	16,118	18,965	84,998	40,715	72,680	102,370	164,890	108,760	154,820	100,482	8,771	9,382
MEAN	520	632	2,742	1,313	2,596	3,302	5,496	3,508	5,161	3,241	283	313
MAX	839	819	5,620	3,030	2,760	7,860	7,690	5,480	6,940	7,540	334	715
MIN	250	232	719	845	1,880	1,140	2,760	1,910	2,130	336	254	248
AC-FT	31,970	37,620	168,600	80,760	144,200	203,000	327,100	215,700	307,100	199,300	17,400	18,610

CAL YR 1966: TOTAL 293,094
WAT YR 1967: TOTAL 882,951

MEAN 803
MEAN 2,419

MAX 5,620
MAX 7,860

MIN 164
MIN 232

AC-FT 581,300
AC-FT 1,751,000

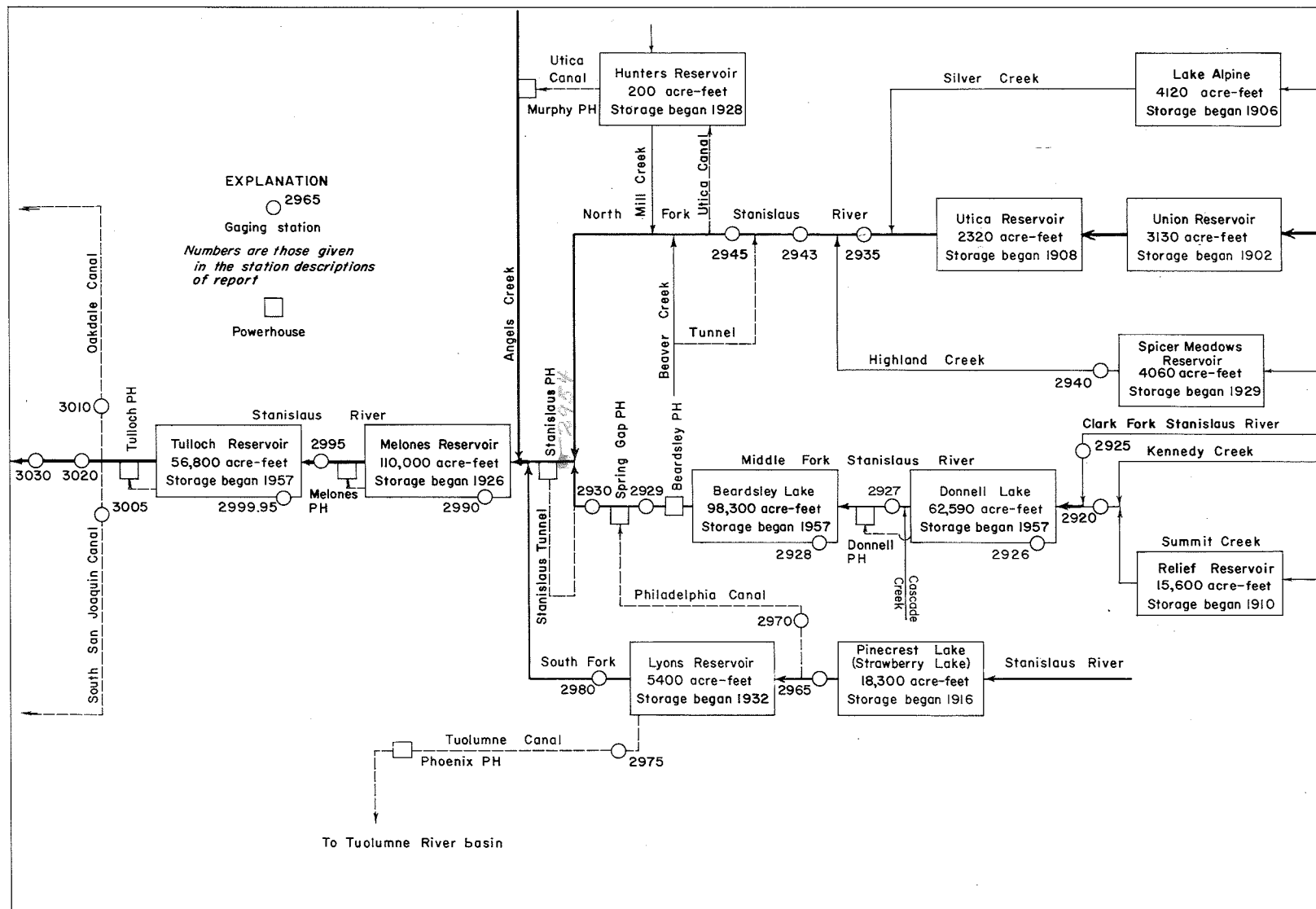


Figure 5-- Schematic diagram showing diversions and storage in Stanislaus River basin.

11-2920. MIDDLE FORK STANISLAUS RIVER AT KENNEDY MEADOWS, NEAR DARDANELLE, CALIF.

LOCATION.--Lat 38°17'50", long 119°44'25", in NE¼ sec.11, T.5 N., R.20 E., on right bank at upper end of Kennedy Meadows, 1.3 miles upstream from Deadman Creek, 1.6 miles downstream from Relief Reservoir, and 5.8 miles southwest of Dardanelle.

DRAINAGE AREA.--47.5 sq mi.

RECORDS AVAILABLE.--October 1938 to September 1967. Records for water year 1946 incomplete, yearly estimate published in WSP 1315-A. Prior to October 1962, published as "at Kennedy Meadows."

GAGE.--Graphic water-stage recorder. Datum of gage is 6,320.1 ft above mean sea level (river-profile survey).

AVERAGE DISCHARGE.--29 years, 133 cfs (96,290 acre-ft per year), unadjusted.

EXTREMES.--Maximum discharge during year, 1,440 cfs July 1 (gage height, 6.39 ft); minimum daily, 9.2 cfs Nov. 2, 5.

1938-67: Maximum discharge recorded, 1,700 cfs Nov. 20, 1950 (gage height, 6.66 ft); minimum daily recorded, 7.2 cfs Feb. 11, 1948.

REMARKS.--Records good. Flow regulated by Relief Reservoir (usable capacity, 15,600 acre-ft). Contents of Relief Reservoir were zero acre-ft on Sept. 30, 1966, and 4,200 acre-ft on Sept. 30, 1967. No diversion above station. See schematic diagram of Stanislaus River basin.

COOPERATION.--Gage-height record and eight discharge measurements furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11	9.5	41	17	22	25	38	35	373	1,250	345	99
2	11	9.2	42	17	22	26	35	36	295	1,240	315	98
3	12	9.5	40	17	21	27	34	40	285	1,200	308	120
4	11	9.5	33	17	21	26	34	43	364	1,050	256	108
5	11	9.2	38	17	22	26	32	41	430	1,000	232	98
6	11	10	109	16	22	25	31	48	403	940	210	109
7	11	11	76	16	24	25	32	66	484	875	177	162
8	11	11	53	16	25	27	30	95	518	746	161	169
9	11	10	42	16	26	28	39	119	720	684	162	178
10	11	10	39	16	28	28	40	109	715	622	180	154
11	11	11	35	17	27	27	40	92	737	606	192	109
12	11	11	32	18	28	22	39	80	728	626	183	120
13	11	10	31	18	28	21	40	80	697	679	178	153
14	10	10	29	18	28	27	41	88	679	760	172	161
15	10	11	29	19	28	36	42	120	760	782	188	165
16	10	25	29	20	25	137	40	180	840	769	202	164
17	10	15	29	18	25	102	39	246	930	650	228	185
18	10	13	29	17	26	85	41	280	985	618	272	310
19	10	15	30	17	26	73	40	285	920	558	295	345
20	10	30	29	18	26	64	38	328	925	473	208	345
21	10	18	27	22	27	58	37	412	1,020	370	164	352
22	10	17	24	19	25	56	36	484	1,000	348	148	358
23	10	17	23	21	24	53	36	815	945	406	138	355
24	9.7	18	22	17	24	50	36	900	945	424	195	350
25	9.7	16	21	19	24	46	35	910	1,030	433	448	345
26	9.7	14	19	22	23	43	35	880	955	409	325	340
27	9.7	14	20	23	23	42	36	885	1,020	385	170	335
28	10	81	21	22	24	47	36	865	1,070	397	132	328
29	9.7	98	20	25	-----	45	35	715	1,160	421	114	322
30	9.7	55	19	27	-----	41	33	634	1,230	406	106	315
31	9.7	-----	18	25	-----	41	-----	515	-----	385	103	-----
Total	321.9	597.9	1,049	587	694	1,379	1,100	10,426	23,163	20,512	6,507	6,752
Mean	10.4	19.9	33.8	18.9	24.8	44.5	36.7	336	772	662	210	225
Max	12	98	109	27	28	137	42	910	1,230	1,250	448	358
Min	9.7	9.2	18	16	21	21	30	35	285	348	103	98
Ac-ft	638	1,190	2,080	1,160	1,380	2,740	2,180	20,680	45,940	40,680	12,910	13,390

Cal yr 1966: Total 35,642.8 Mean 97.7 Max 532 Min 9.2 Ac-ft 70,700
Wtr yr 1967: Total 73,088.8 Mean 200 Max 1,250 Min 9.2 Ac-ft 145,000

SAN JOAQUIN RIVER BASIN

11-2925. CLARK FORK STANISLAUS RIVER NEAR DARDANELLE, CALIF.

LOCATION.--Lat 38°21'50", long 119°52'30", in SE $\frac{1}{4}$ sec.15, T.6 N., R.19 E., on right bank 0.3 mile upstream from mouth, and 3 miles northwest of Dardanelle.

DRAINAGE AREA.--67.5 sq mi.

RECORDS AVAILABLE.--October 1950 to September 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is 5,507.3 ft above mean sea level (river-profile survey).

AVERAGE DISCHARGE.--17 years, 149 cfs (107,900 acre-ft per year).

EXTREMES.--Maximum discharge during year, 1,780 cfs June 30 (gage height, 8.22 ft); minimum daily, 19 cfs Oct. 4-19, 24-31.

1950-67: Maximum discharge, 4,350 cfs Nov. 20, 1950 (gage height, 11.88 ft), from rating curve extended above 1,100 cfs on basis of slope-area measurement of maximum flow; minimum, 11 cfs Apr. 3, 1958.

REMARKS.--Records good except those for winter periods, which are fair. No storage or diversion above station. See schematic diagram for Stanislaus River basin.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	20	20	49	44	43	64	105	74	454	1380	206	73
2	20	20	52	43	49	69	102	78	382	1360	191	77
3	20	20	56	41	46	72	100	87	395	1320	186	81
4	19	20	46	40	47	67	93	93	463	1180	174	75
5	19	20	72	40	43	63	94	94	460	1090	162	75
6	19	21	205	33	49	64	93	109	442	1040	151	69
7	19	22	114	38	52	66	93	167	564	944	143	67
8	19	23	77	37	51	70	89	259	669	848	133	65
9	19	21	66	37	55	75	93	297	723	760	127	63
10	19	22	60	37	60	72	93	229	746	594	124	62
11	19	22	53	36	61	72	89	191	783	676	120	60
12	19	22	54	36	54	74	87	179	736	662	114	57
13	19	22	52	37	69	107	89	183	690	653	103	56
14	19	21	49	33	67	127	93	219	732	643	103	55
15	19	24	49	39	64	111	89	311	323	676	122	53
16	19	51	50	40	61	282	84	443	992	624	117	51
17	19	31	50	39	60	248	84	567	1090	541	128	51
18	19	25	50	40	61	175	37	630	1090	496	133	63
19	19	26	51	38	64	149	84	645	1020	442	110	56
20	20	52	51	40	61	139	30	755	1090	392	101	50
21	20	31	50	34	61	137	30	944	1200	362	96	49
22	20	29	49	35	63	143	77	1060	1170	342	103	50
23	20	28	51	36	63	139	77	1090	1100	323	114	51
24	19	32	51	37	64	129	75	1060	1120	308	144	55
25	19	33	48	33	63	126	74	1030	1200	292	163	50
26	19	30	47	40	61	122	75	1020	1220	273	115	47
27	19	29	46	43	60	120	73	984	1260	260	95	45
28	19	103	43	45	63	127	72	920	1270	248	89	44
29	19	111	47	46	-----	120	70	800	1300	240	33	45
30	19	59	46	47	-----	114	70	697	1360	230	79	45
31	19	-----	45	43	-----	112	-----	578	-----	221	75	-----
Total	596	990	1839	1227	1635	3555	2574	15303	26459	19530	3914	1740
Mean	19.2	33.0	59.3	39.6	53.4	115	85.8	510	832	630	126	58.0
Max	20	111	205	48	69	282	105	1090	1360	1380	206	81
Min	19	20	45	34	46	63	70	74	382	221	75	44
Ac-ft	1180	1960	3650	2430	3240	7050	5110	31340	52480	38740	7760	3450

Cal yr 1966: Total 37402 Mean 102 Max 500 Min 19 Ac-ft 74190
 Wtr yr 1967: Total 79362 Mean 219 Max 1380 Min 19 Ac-ft 158400

Peak discharge (base, 600 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
5-22	2000	7.52	1,390	7-15	1900	7.05	1,160
6-30	1900	8.22	1,780				

SAN JOAQUIN RIVER BASIN

707

11-2926. DONNELL LAKE NEAR DARDANELLE, CALIF.

LOCATION.--Lat 38°19'46", long 119°57'37", in SE $\frac{1}{4}$ sec.35, T.6 N., R.18 E., on left bank in hoist house of Donnell Dam on Middle Fork Stanislaus River, 1.2 miles downstream from Niagara Creek, and 6.9 miles west of Dardanelle.

DRAINAGE AREA.--230 sq mi.

RECORDS AVAILABLE.--October 1957 to September 1967. Prior to October 1962, published as Donnell's Reservoir near Dardanelle.

GAGE.--Graphic water-stage recorder. Datum of gage is 4.84 ft above mean sea level (levels by Oakdale and South San Joaquin Irrigation Districts).

EXTREMES.--Maximum contents during year, 64,300 acre-ft July 16 (gage height, 4,916.0 ft); minimum, 5,630 acre-ft May 4 (gage height, 4,739.1 ft).
1957-67: Maximum contents, 64,900 acre-ft May 8, 1963 (gage height, 4,917.3 ft); minimum since reservoir first filled, 4,800 acre-ft Apr. 19, 1965 (gage height, 4,735.3 ft).

REMARKS.--Lake is formed by concrete arch-type dam completed in 1957. Usable capacity, 62,590 acre-ft between gage heights 4,720.0 (minimum operating head) and 4,917.0 ft (top of spillway gates). Lake is for power and conservation storage. Water passes through 7.2-mile tunnel to powerplant and down Middle Fork Stanislaus River to Beardsley Lake (see sta. no. 2928). Records including extremes represent total contents, at 2400 hours of which 2,150 acre-ft is below minimum operating head. See schematic diagram for Stanislaus River basin.

CAPACITY TABLE (ELEVATION, IN FEET, AND CONTENTS, IN ACRE-FT)

4,735	4,730	4,790	19,100
4,740	5,830	4,800	22,100
4,750	8,220	4,820	28,400
4,760	10,800	4,850	38,700
4,770	13,400	4,880	49,800
4,780	16,200	4,917.3	64,900

Contents, in thousands of acre-feet, at 2400 hours, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	20.8	12.7	14.6	10.1	8.82	14.1	24.8	6.95	58.8	62.1	64.0	59.8
2	20.1	12.8	15.0	10.4	8.80	14.1	24.6	6.17	58.4	61.9	63.9	59.4
3	19.3	12.8	15.8	9.77	8.75	14.1	24.3	5.83	58.6	61.5	63.9	59.1
4	18.6	12.9	16.3	9.28	9.15	14.6	24.1	5.63	58.9	60.9	63.7	58.7
5	17.9	12.9	16.8	8.70	9.56	15.0	23.8	5.94	59.0	60.8	63.2	58.0
6	17.3	13.0	20.2	8.22	9.54	15.0	23.4	6.45	59.0	61.2	62.8	57.1
7	16.7	13.0	20.9	8.49	9.72	15.0	22.7	7.48	59.4	61.7	62.6	56.3
8	16.6	13.1	20.8	8.72	9.79	15.2	22.4	8.57	59.7	62.1	62.6	55.6
9	16.5	12.9	20.6	8.39	9.84	15.2	22.1	9.69	59.9	62.4	62.6	55.5
10	15.8	12.8	21.2	8.34	9.95	15.0	21.5	10.3	59.9	62.6	62.5	55.5
11	15.3	12.9	21.7	8.12	10.5	15.5	20.7	10.4	59.9	62.6	62.5	54.7
12	14.8	12.9	21.2	7.92	11.0	16.0	20.0	10.3	59.8	62.9	62.4	53.8
13	14.7	13.0	20.4	7.70	11.1	15.5	19.2	10.3	59.7	63.2	62.4	53.0
14	14.7	12.7	19.6	7.95	11.2	15.2	18.5	10.6	59.8	63.8	62.3	52.1
15	14.7	12.2	18.8	8.22	11.3	14.9	18.2	11.8	60.1	64.3	62.2	51.4
16	14.7	11.9	17.9	8.04	11.3	17.3	17.9	14.1	60.5	64.1	62.2	51.9
17	14.2	11.9	17.1	7.77	11.4	19.4	17.1	17.5	61.4	64.2	62.3	52.3
18	13.6	11.9	16.2	7.60	11.9	21.3	16.4	21.1	61.6	64.1	62.4	52.0
19	13.0	12.0	15.4	7.46	12.3	22.8	15.5	24.9	61.3	64.1	62.7	51.5
20	12.7	12.4	14.5	7.19	12.3	23.3	14.7	29.7	61.3	64.1	62.7	51.0
21	12.1	12.6	13.7	7.58	12.5	23.8	13.9	35.9	61.6	64.0	62.6	50.5
22	12.2	12.6	12.8	7.82	12.8	24.2	13.5	42.4	61.5	64.2	62.4	50.2
23	12.2	12.6	11.9	7.60	12.7	24.5	13.2	49.8	61.0	64.2	62.3	51.0
24	12.3	12.7	12.2	7.46	12.8	24.6	12.3	57.4	61.2	64.2	62.5	51.6
25	12.3	12.6	12.6	7.19	13.2	24.8	11.4	60.6	62.0	64.2	63.1	51.4
26	12.4	12.7	12.9	7.09	13.6	24.8	10.5	60.8	62.1	64.1	63.6	50.8
27	12.5	12.9	12.3	7.14	13.7	24.8	9.64	60.7	61.6	64.1	63.3	50.2
28	12.5	13.6	11.3	7.55	14.0	25.0	8.75	60.3	61.6	64.1	62.7	49.6
29	12.6	14.4	10.3	8.29	-----	25.1	8.32	60.1	61.8	64.1	62.1	49.0
30	12.6	14.5	9.56	8.44	-----	25.1	7.87	59.7	62.1	64.1	61.4	48.4
31	12.7	-----	9.82	8.75	-----	25.0	-----	59.2	-----	64.0	60.7	-----
(+)	4767.1	4773.9	4756.3	4752.1	4772.0	4809.3	4748.6	4903.8	4910.7	4915.3	4907.2	4876.3
(-)	-8800	+1800	-4680	-1070	+5250	+11000	-17130	+51330	+2900	+1900	-3300	-12300
Max	20800	14500	21700	10400	14000	25100	24800	60800	62100	64300	64000	59800
Min	12100	11900	9560	7090	8750	14100	7870	5630	58400	60800	60700	48400

Calendar year 1966..... + 28,780

Max 64,200

Min 9,560

Water year 1966-67..... + 26,900

Max 64,300

Min 5,630

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

* Change in contents, in acre-feet.

SAN JOAQUIN RIVER BASIN

11-2927. MIDDLE FORK STANISLAUS RIVER AT HELLS HALF ACRE BRIDGE, NEAR PINECREST, CALIF.

LOCATION.--Lat 38°14'49", long 120°01'51", in SW¼NE¼ sec.31, T.5 N., R.18 E., on left bank 200 ft upstream from Donnell powerhouse, 800 ft downstream from Hells Half Acre Bridge, 1.1 miles upstream from Cow Creek, and 4.7 miles northwest of Pinecrest.

DRAINAGE AREA.--287 sq mi.

RECORDS AVAILABLE.--February 1956 to September 1967. Prior to October 1965, published as Middle Fork Stanislaus River at Hells Half Acre Bridge.

GAGE.--Graphic water-stage recorder. Datum of gage is 3,418.31 ft above mean sea level (river-profile survey). Prior to Aug. 9, 1961, at site 1,600 ft upstream at different datum.

AVERAGE DISCHARGE.--11 years, 244 cfs (176,600 acre-ft per year).

EXTREMES.--Maximum discharge during year, 4,780 cfs May 27 (gage height, 10.38 ft); minimum daily, 9.7 cfs Nov. 19.

1956-67: Maximum discharge, 10,200 cfs Dec. 24, 1964 (gage height, 13.64 ft in gage well, 14.2 ft outside, from floodmarks), from rating curve extended above 2,100 cfs on basis of computation of peak inflow to Beardsley Lake at 12.20 ft; minimum, 3.3 cfs Nov. 9, 10, 1957.

Maximum stage known since at least 1905, 23 ft Dec. 23, 1955, from floodmarks at present site (discharge, 26,600 cfs by slope-area measurement).

REMARKS.--Records good. Flow regulated by Relief Reservoir since 1909 (capacity, 15,600 acre-ft), by Donnell Lake (see sta. no. 2926), and by diversion around station through Donnell powerhouse. See schematic diagram for Stanislaus River basin. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	16	16	43	53	207	129	265	159	1870	3600	84	32
2	16	16	180	51	179	131	244	174	1400	3530	29	32
3	16	16	262	50	165	140	234	202	1220	3470	25	33
4	16	16	108	49	159	126	234	236	1600	3150	37	32
5	16	16	307	49	162	117	222	241	2080	2550	36	32
6	16	13	1280	45	160	115	213	263	1340	2080	34	32
7	16	19	433	45	165	113	224	374	2050	1740	34	30
8	16	13	244	45	166	125	213	502	2460	1490	33	30
9	16	17	134	44	163	131	216	575	2780	1300	30	30
10	16	17	166	44	176	134	222	557	2820	1110	30	30
11	16	17	146	44	177	131	213	440	2940	1120	29	30
12	16	17	125	44	182	133	202	387	2880	1130	23	30
13	15	17	114	45	192	126	209	390	2630	1050	29	30
14	15	13	104	46	187	126	222	450	2590	1010	28	30
15	15	19	96	46	170	127	215	593	2950	1110	30	30
16	15	35	92	47	159	1100	200	783	3130	1400	31	30
17	15	27	89	45	152	930	197	944	3360	934	30	30
18	15	14	86	45	152	550	205	974	3790	386	30	33
19	14	9.7	86	44	152	433	193	986	3310	730	30	30
20	14	46	88	43	141	393	187	1140	3750	550	30	30
21	14	33	82	112	136	381	182	1320	3790	476	30	30
22	16	29	77	94	134	387	179	1360	3800	255	30	30
23	16	22	74	78	133	399	172	1290	3640	313	30	30
24	16	17	69	72	129	366	172	1220	3330	399	29	30
25	16	14	67	66	131	333	163	2390	3130	322	30	30
26	16	13	63	70	121	317	171	4500	3430	302	32	30
27	16	12	57	114	122	303	185	4510	3650	237	30	30
28	16	89	59	123	122	372	174	4390	3460	202	29	30
29	16	173	59	260	- - - -	343	165	3660	3460	199	29	30
30	16	65	56	300	- - - -	303	160	3200	3560	194	36	30
31	16	- - - -	54	270	- - - -	285	- - - -	2610	- - - -	187	37	- - - -
Total	484	365.7	4960	2493	4399	9019	6063	41335	87100	37031	1008	916
Mean	15.6	28.9	160	80.4	157	291	202	1333	2903	1195	32.5	30.5
Max	16	173	1280	300	207	1100	265	4510	3810	3600	84	33
Min	14	9.7	43	44	121	115	160	159	1220	187	25	30
Ac-ft	960	1720	9340	4940	8730	17390	12030	81990	172300	73450	2000	1320

Cal yr 1966: Total 35,263.4 Mean 96.6 Max 1,280 Min 9.7 Ac-ft 69,940
 Wtr yr 1967: Total 195,673.7 Mean 536 Max 4,510 Min 9.7 Ac-ft 382,100

SAN JOAQUIN RIVER BASIN

709

11-2928. BEARDSLEY LAKE NEAR STRAWBERRY, CALIF.

LOCATION.--Lat 38°12'17", long 120°04'31", in NW¼ sec.14, T.4 N., R.17 E., in hoist house of Beardsley Dam on Middle Fork Stanislaus River, 2.4 miles upstream from Spring Gap powerhouse, 3.9 miles west of Strawberry, and 4.7 miles west of Pinecrest.

DRAINAGE AREA.--309 sq mi.

RECORDS AVAILABLE.--June 1957 to September 1967. Prior to October 1960, published as Lake Hartley near Strawberry.

GAGE.--Graphic water-stage recorder. Datum of gage is 7.84 ft above mean sea level (levels by Oakdale and South San Joaquin Irrigation Districts).

EXTREMES.--Maximum contents during year, 97,900 acre-ft July 16 (gage height, 3,397.2 ft); minimum, 44,600 acre-ft Dec. 4 (gage height, 3,312.3 ft).

1957-67: Maximum contents, 98,700 acre-ft June 27, 1957 (gage height, 3,398.2 ft); minimum since reservoir first filled, 20,000 acre-ft Jan. 27, 28, 1962 (gage height, 3,261.3 ft).

REMARKS.--Reservoir is formed by rock-fill, earth-core dam completed in 1957. Capacity, 98,500 acre-ft between gage heights 3,145.0 (tunnel invert) and 3,398.0 ft (top of spillway gates). No dead storage. Reservoir is used for power and conservation storage. Water passes through powerplant and down Middle Fork Stanislaus River to Melones Reservoir (see sta. no. 2990). See schematic diagram for Stanislaus River basin.

CAPACITY TABLE (ELEVATION, IN FEET, AND CONTENTS, IN ACRE-FT)

3,261	19,900
3,280	33,100
3,320	48,800
3,350	66,400
3,370	79,200
3,398	98,500

Contents, in thousands of acre-feet, at 2400 hours, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	76.9	67.4	45.1	58.5	57.4	53.8	68.9	82.8	79.4	94.8	97.7	95.0
2	76.9	66.4	45.2	57.8	57.9	53.6	69.2	83.4	79.2	94.9	97.8	94.7
3	77.5	65.8	45.0	57.9	58.2	53.5	69.5	83.6	79.2	94.9	97.7	94.4
4	78.0	64.8	44.6	57.9	58.1	52.9	69.9	84.0	79.4	94.4	97.8	94.0
5	78.4	63.7	45.8	53.0	58.0	52.3	70.2	83.9	79.6	94.3	97.8	94.1
6	78.9	62.7	48.7	53.0	58.3	52.1	70.6	83.8	79.5	94.9	97.8	94.2
7	79.4	61.6	49.9	57.5	58.2	51.9	71.3	83.9	79.6	95.7	97.5	94.4
8	79.4	60.6	51.0	57.0	58.2	51.7	71.5	85.0	79.8	96.4	97.2	94.4
9	79.2	59.8	52.0	56.8	58.1	51.7	71.7	86.7	80.4	96.9	96.9	93.9
10	79.8	58.9	52.1	55.4	58.2	51.7	72.5	88.4	80.2	96.9	96.6	93.3
11	80.2	57.8	52.3	56.2	57.7	51.4	73.2	89.7	80.0	96.9	96.3	93.2
12	80.3	56.6	53.2	56.1	57.3	51.0	73.8	90.7	79.9	97.0	95.9	93.4
13	80.4	55.5	54.4	56.1	57.4	51.3	74.5	90.0	79.8	97.2	95.7	93.5
14	80.0	54.7	55.7	55.6	57.5	51.6	75.2	89.3	79.8	97.5	95.3	93.7
15	79.2	54.3	56.9	55.1	57.5	51.8	75.6	89.0	80.0	97.7	95.3	93.7
16	78.2	53.9	57.9	55.1	57.6	54.3	75.7	89.2	80.7	97.5	95.0	92.5
17	77.8	53.3	58.3	55.3	57.6	56.6	76.3	89.8	82.6	97.5	94.8	91.3
18	77.8	52.9	58.8	55.4	57.4	57.1	77.1	89.4	85.5	97.7	94.7	91.3
19	78.0	52.7	59.2	55.4	56.8	57.5	77.7	88.1	88.3	97.5	94.6	91.4
20	78.3	51.7	59.7	55.6	56.8	58.3	78.4	86.9	90.2	97.7	94.4	91.6
21	78.5	51.0	60.2	55.4	56.6	59.2	79.0	86.3	91.8	97.6	94.4	91.7
22	77.6	50.5	60.7	54.5	56.2	60.1	79.1	85.7	93.0	97.6	94.3	91.7
23	76.6	49.7	61.1	54.8	56.1	61.3	79.2	84.4	93.7	97.6	94.2	90.6
24	75.6	48.8	60.4	54.9	55.9	62.5	79.8	79.7	93.6	97.7	94.0	89.6
25	74.6	48.1	59.6	55.1	55.4	63.4	80.3	80.7	93.3	97.7	93.9	89.5
26	73.6	47.2	58.8	55.2	54.7	64.3	80.9	82.0	93.5	97.7	93.8	89.7
27	72.6	46.4	59.7	55.4	54.5	65.3	81.6	81.7	94.2	97.7	93.9	89.8
28	71.6	46.0	59.1	55.1	54.0	66.3	82.2	81.1	94.2	97.8	94.1	89.9
29	70.5	45.9	59.6	55.8	-----	67.4	82.2	80.2	94.4	97.7	94.3	90.1
30	69.5	45.6	59.8	56.6	-----	68.2	82.3	80.0	94.5	97.7	94.5	90.3
31	68.5	-----	59.2	57.1	-----	68.5	-----	79.9	-----	97.7	94.8	-----
(+)	3,353.4	3,314.2	3,338.1	3,334.6	3,329.2	3,353.5	3,374.7	3,371.1	3,392.4	3,396.8	3,392.8	3,386.4
(#)	-8,600	-22,900	+13,600	=2,100	=3,100	+14,500	+13,800	=2,400	+14,600	+3,200	=2,900	-4,500
Max	80,400	67,400	61,100	58,500	58,300	68,500	82,300	90,700	94,500	97,800	97,800	95,000
Min	63,500	45,600	44,600	54,500	54,000	51,000	63,300	79,700	79,200	94,300	93,900	89,500

Calendar year 1966: † 14,400 Max 97,800 Min 26,600
Water year 1966-67: † 13,200 Max 97,800 Min 44,600

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

Change in contents, in acre-feet.

SAN JOAQUIN RIVER BASIN

11-2929. MIDDLE FORK STANISLAUS RIVER BELOW BEARDSLEY DAM, CALIF.

LOCATION.--Lat 38°11'36", long 120°05'53", in NW $\frac{1}{4}$ sec.22, T.4 N., R.17 E., on right bank 0.5 mile downstream from Beardsley powerhouse afterbay dam, 1.5 miles downstream from Beardsley Dam, and 5.7 miles west of Pinecrest.

DRAINAGE AREA.--316 sq mi.

RECORDS AVAILABLE.--December 1956 to September 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is 3,044.7 ft above mean sea level (river-profile survey).

AVERAGE DISCHARGE.--10 years, 588 cfs (425,700 acre-ft per year).

EXTREMES.--Maximum discharge during year, 5,710 cfs May 28 (gage height, 10.56 ft); minimum daily, 107 cfs

Oct. 21.

1956-67: Maximum discharge, 5,860 cfs May 23, 1958 (gage height, 10.48 ft); minimum daily, 3.0 cfs Oct. 10, 11, 1958.

REMARKS.--Records good. No diversion above station. Flow regulated by Relief Reservoir (capacity, 15,600 acre-ft), Donnell Lake since April 1957 (see sta. no. 2926), and by Beardsley Lake since January 1957 (see sta. no. 2928). See schematic diagram for Stanislaus River basin.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	465	540	444	451	245	462	596	678	2910	4140	715	568
2	395	444	448	440	235	465	620	683	2280	4160	674	576
3	142	385	448	440	238	465	612	692	2000	4160	688	576
4	133	528	444	420	238	462	642	701	2260	4120	688	580
5	131	548	110	430	238	462	656	706	2830	3260	688	580
6	129	548	202	411	275	462	660	706	2720	2450	688	580
7	129	552	273	309	395	454	660	710	2780	2050	634	580
8	130	552	183	312	427	448	660	720	3150	1800	556	584
9	130	552	118	404	424	448	660	730	3230	1740	556	584
10	130	556	116	437	424	444	665	725	3720	1750	560	584
11	130	564	115	369	434	444	670	696	3820	1750	560	588
12	129	572	113	306	434	437	670	762	3660	1750	560	588
13	130	580	113	306	434	437	670	1680	3420	1620	564	588
14	175	576	113	306	430	437	670	1700	3310	1500	572	588
15	420	576	113	306	383	437	674	1710	3490	1620	520	588
16	479	532	198	257	401	454	670	1680	3420	2170	482	588
17	504	465	434	230	219	454	670	1650	3130	1580	465	588
18	414	392	458	224	420	448	670	2190	2890	1410	454	596
19	231	130	472	224	424	448	670	2730	3000	1480	468	596
20	127	504	486	148	434	440	670	2780	3460	1110	454	592
21	107	479	479	388	427	424	670	2720	3680	1190	451	592
22	468	500	479	388	427	408	675	2730	3860	920	424	592
23	532	486	482	318	427	404	675	2920	3980	975	448	592
24	532	437	482	273	454	385	675	4680	4020	914	444	596
25	532	444	482	275	458	388	675	3230	3980	1000	451	532
26	528	444	482	268	458	385	675	4640	3980	948	458	600
27	528	448	482	247	465	388	675	5580	4030	914	454	600
28	532	444	482	242	462	398	675	5580	4090	780	454	600
29	532	444	468	176	- - - -	404	678	4980	4090	876	448	600
30	532	440	465	126	- - - -	479	678	4090	4100	876	451	600
31	536	- - - -	454	257	- - - -	580	- - - -	3370	- - - -	832	458	- - - -
Total	10,012	14,662	10,638	9,693	10,730	13,651	19,886	69,149	101,290	55,845	16,487	17,596
Mean	323	489	343	313	383	440	663	2,231	3,376	1,801	532	587
Max	536	580	486	451	465	580	678	5580	4100	4160	715	600
Min	107	130	110	126	219	385	596	673	2,000	780	424	532
Ac-ft	19,860	29,080	21,100	19,230	21,280	27,080	39,440	137,200	200,900	110,800	32,700	34,900

Cal yr 1966: Total 168,514 Mean 461 Max 1,770 Min 107 Ac-ft 334,200
Wtr yr 1967: Total 349,639 Mean 958 Max 5,580 Min 107 Ac-ft 693,500

11-2935. NORTH FORK STANISLAUS RIVER BELOW SILVER CREEK, CALIF.

LOCATION.--Lat 38°26'22", long 120°00'53", in SE¼ sec.20, T.7 N., R.18 E., on right bank 100 ft downstream from Silver Creek and 5.6 miles northeast of Big Meadow.

DRAINAGE AREA.--27.8 sq mi.

RECORDS AVAILABLE.--October 1952 to September 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is 6,677.3 ft above mean sea level (river-profile survey).

AVERAGE DISCHARGE.--15 years, 72.1 cfs (52,200 acre-ft per year).

EXTREMES.--Maximum discharge during year, 896 cfs May 21 (gage height, 8.04 ft); minimum daily, 2.8 cfs Oct.

22, Nov. 1, 2.

1952-67: Maximum discharge, 2,780 cfs Dec. 24, 1964 (gage height, 11.16 ft, from floodmarks), from rating curve extended above 500 cfs; minimum daily, 0.3 cfs Oct. 10, 1958.

Flood of Nov. 20, 1950, reached a stage of 11.17 ft, from Pacific Gas and Electric Co. recorder chart (discharge, 2,790 cfs).

REMARKS.--Records fair. Flow regulated by Lake Alpine, Union, and Utica Reservoirs (combined capacity, 9,600 acre-ft). No diversion above station. See schematic diagram of Stanislaus River basin.

COOPERATION.--Gage-height record and six discharge measurements furnished by Pacific Gas and Electric Co in connection with a Federal Power Commission project.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.6	2.8	4.6	25	43	39	69	53	200	381	18	15
2	3.6	2.8	54	24	40	45	60	62	166	360	18	15
3	3.7	4.6	64	24	38	46	56	75	203	330	17	15
4	3.6	4.6	47	24	38	41	54	78	356	290	16	15
5	3.7	4.5	52	24	39	38	52	73	383	254	16	15
6	3.7	4.8	238	23	40	38	52	91	348	230	16	15
7	3.6	5.0	101	23	41	42	54	132	420	211	16	15
8	3.6	5.0	63	23	42	50	58	213	454	178	16	15
9	3.7	4.8	52	23	43	50	60	370	473	155	16	15
10	3.7	4.7	48	24	47	47	60	238	473	133	16	15
11	10	4.7	48	25	45	42	57	145	456	121	16	15
12	18	4.7	46	26	45	41	54	118	434	118	16	15
13	18	4.7	46	27	48	41	58	125	420	109	16	15
14	18	4.7	45	28	43	41	63	178	451	105	16	15
15	17	5.2	48	29	41	42	58	310	484	91	16	15
16	16	29	48	29	39	364	52	422	526	85	16	15
17	14	25	46	29	39	328	47	497	650	78	16	15
18	11	14	46	29	42	178	51	502	535	66	16	15
19	7.0	11	46	29	43	114	50	478	476	58	15	15
20	3.6	65	44	28	40	91	50	544	466	44	15	15
21	3.2	33	41	27	39	88	49	657	494	27	15	15
22	2.8	29	39	29	39	94	49	674	471	28	15	15
23	3.0	26	37	31	40	87	48	646	442	28	15	15
24	3.2	24	36	32	39	75	48	622	439	28	16	16
25	3.1	21	34	32	37	64	47	577	456	27	18	15
26	3.1	20	32	33	36	70	50	553	456	25	16	18
27	3.1	20	31	51	35	75	52	544	420	24	15	41
28	3.1	141	29	47	36	110	52	517	415	22	15	56
29	3.1	120	28	62	-----	92	50	458	413	21	15	58
30	3.2	51	27	60	-----	80	50	398	407	20	15	59
31	3.0	-----	26	49	-----	72	-----	316	-----	19	15	-----
Total	2030	696.6	1588	969	1137	2625	1610	10666	12787	3666	493	608
Mean	6.55	23.2	51.2	31.3	40.6	84.7	53.7	344	426	118	15.9	20.3
Max	18	141	238	62	48	364	69	674	650	381	18	59
Min	2.8	2.8	26	23	35	38	47	53	166	19	15	15
Ac-ft	403	1380	3150	1920	2260	5210	3190	21160	25360	7270	978	1210

Cal yr 1966: Total 23,238.7 Mean 63.7 Max 336 Min 2.8 Ac-ft 46,100
 Wtr yr 1967: Total 37,048.6 Mean 102 Max 674 Min 2.8 Ac-ft 73,480

Peak discharge (base, 300 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-28	1530	6.14	304	5-21	1900	8.04	896
12-6	1200	6.65	432	6-17	2000	7.83	812
3-16	1600	7.16	568				

SAN JOAQUIN RIVER BASIN

11-2940. HIGHLAND CREEK BELOW SPICER MEADOWS RESERVOIR, CALIF.

LOCATION.--Lat 38°23'50", long 119°59'30", in SW¼ sec.3, T.6 N., R.18 E., on right bank just downstream from Spicer Meadows Reservoir dam, 5.5 miles upstream from mouth and 7 miles east of Big Meadow.

DRAINAGE AREA.--42.4 sq mi.

RECORDS AVAILABLE.--October 1952 to September 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is 6,374.8 ft above mean sea level (river-profile survey).

AVERAGE DISCHARGE.--15 years, 118 cfs (85,430 acre-ft per year).

EXTREMES.--Maximum discharge during year, 2,200 cfs Mar. 16 (gage height, 7.52 ft); minimum daily, 2.5 cfs Nov. 18.

1952-67: Maximum discharge, 9,860 cfs Jan. 31, 1963 (gage height, 11.88 ft), from rating curve extended above 1,200 cfs; no flow Sept. 28 to Dec. 1, Dec. 4-6, 1964.

Flood of Nov. 20, 1950, reached a stage of 11.50 ft, from Pacific Gas and Electric Co. recorder chart (discharge, 8,800 cfs).

REMARKS.--Records good. Flow regulated by Spicer Meadows Reservoir (capacity, 4,060 acre-ft). See schematic diagram of Stanislaus River basin.

COOPERATION.--Gage-height record and seven discharge measurements furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	30	13	125	36	94	87	128	69	399	765	55	47
2	29	7.8	82	35	85	90	113	88	324	740	48	50
3	32	4.6	202	35	64	96	102	114	372	686	44	50
4	35	3.3	110	35	64	79	105	137	550	602	39	49
5	27	3.4	191	36	68	68	96	133	594	546	35	50
6	20	3.4	836	33	71	69	98	172	538	506	29	52
7	20	3.4	303	31	75	77	94	302	678	458	25	52
8	20	3.3	156	30	77	90	90	460	755	417	22	53
9	20	3.0	119	30	81	106	103	482	820	366	21	53
10	20	2.9	103	30	92	102	106	315	810	324	20	53
11	12	2.7	90	30	88	87	95	220	790	312	20	58
12	3.9	2.7	82	32	91	81	85	187	735	300	18	59
13	3.9	2.6	76	34	98	72	97	216	706	290	17	59
14	3.9	2.7	68	40	95	69	109	306	750	284	18	59
15	4.0	2.8	65	44	86	85	98	478	820	329	18	58
16	4.1	2.9	69	48	76	1,300	80	686	915	315	27	58
17	6.1	2.8	67	48	76	876	84	790	1,170	260	31	56
18	5.8	2.5	68	41	76	420	87	830	1,010	218	38	55
19	8.8	2.6	69	40	77	286	84	830	970	187	28	54
20	12	2.8	69	42	66	236	76	992	935	156	26	53
21	12	2.8	61	52	69	220	75	1,240	986	136	26	52
22	7.9	2.8	56	42	70	234	70	1,270	930	127	26	50
23	5.0	2.8	52	44	73	228	66	1,230	855	120	29	48
24	3.6	2.8	50	58	72	191	66	1,170	860	108	34	47
25	2.9	2.8	47	45	69	171	62	1,100	905	98	34	44
26	2.9	2.8	44	44	64	156	64	1,050	875	86	34	42
27	2.9	2.8	42	64	65	146	75	1,020	840	76	34	27
28	4.5	3.1	46	76	75	256	65	930	840	72	33	9.5
29	6.1	57	44	106	-----	193	62	805	850	69	33	7.0
30	9.6	127	42	126	-----	153	61	682	845	65	37	4.6
31	13	-----	38	111	-----	139	-----	550	-----	61	42	-----
Total	387.9	281.9	3,472	1,498	2,157	6,463	2,596	18,854	23,427	9,079	941	1,409.1
Mean	12.5	9.40	112	48.3	77.0	208	86.5	608	781	293	30.4	47.0
Max	35	127	836	126	98	1,300	128	1,270	1,170	765	55	59
Min	2.9	2.5	38	30	64	68	61	69	324	61	17	4.6
Ac-ft	769	559	6,890	2,970	4,280	12,820	5,150	37,400	46,470	18,010	1,870	2,790

Cal yr 1966: Total 33,320.5 Mean 91.3 Max 836 Min 2.5 Ac-ft 66,090
 Wtr yr 1967: Total 70,565.9 Mean 193 Max 1,300 Min 2.5 Ac-ft 140,000

Peak discharge (base, 500 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 6	1100	6.93	1,620	5-22	2000	7.45	2,130
3-16	1600	7.52	2,200	6-17	2130	6.88	1,580
5- 8	2130	5.53	745	7-15	1930	5.21	614

11-2943. NORTH FORK STANISLAUS RIVER BELOW GANNS DAMSITE, NEAR BIG MEADOW, CALIF.

LOCATION.--Lat 38°24'05", long 120°08'40", in SW $\frac{1}{4}$ sec.4, T.6 N., R.17 E., on left bank 0.25 mile upstream from Big Meadow Creek and 0.9 mile south of Big Meadow.

DRAINAGE AREA.--111 sq mi.

RECORDS AVAILABLE.--October 1960 to September 1967 (discontinued). Prior to October 1963, published as "below Ganns damsite."

GAGE.--Graphic water-stage recorder. Datum of gage is 5,405 ft above mean sea level (from river-profile survey).

AVERAGE DISCHARGE.--7 years, 312 cfs (225,900 acre-ft per year).

EXTREMES.--Maximum discharge during year, 6,080 cfs Mar. 16 (gage height, 11.12 ft); minimum daily, 7.5 cfs Oct. 28.

1960-67: Maximum discharge, 21,000 cfs Jan. 31, 1963 (gage heights, 16.12, 16.4 on left bank, 18.8 ft on right bank, from floodmarks), from rating curve extended above 3,000 cfs on basis of slope-area measurement of maximum flow; minimum daily, 5.4 cfs Nov. 6, 1964.

Flood of December 1955, reached a stage of 17.0 ft, from floodmarks on right bank (discharge, 18,000 cfs).

REMARKS.--Records good. Flow regulated at low and medium stages by four reservoirs (combined capacity, 13,600 acre-ft). See schematic diagram for Stanislaus River basin.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	31	16	246	96	232	223	343	189	965	1,620	73	56
2	30	16	509	94	205	226	300	248	758	1,470	67	63
3	30	11	572	94	191	243	280	322	890	1,330	62	63
4	33	9.6	276	93	182	202	276	369	1,570	1,130	57	62
5	33	8.4	476	98	199	176	256	345	1,850	1,020	52	62
6	23	10	2,460	84	197	176	246	458	1,540	875	48	64
7	23	13	956	86	216	199	260	750	1,930	806	44	64
8	23	12	436	90	219	230	250	1,140	2,100	694	42	64
9	23	10	322	84	232	260	270	1,440	2,250	607	39	64
10	22	9.2	283	81	256	252	280	905	2,220	530	39	63
11	22	8.8	258	84	245	216	256	590	2,120	486	38	64
12	22	8.6	237	88	250	248	233	486	2,040	467	37	66
13	21	8.4	223	95	272	325	260	551	1,900	432	36	64
14	21	8.6	204	112	258	317	280	794	2,050	420	35	64
15	20	10	200	122	216	252	260	1,380	2,260	408	37	62
16	20	81	205	129	196	3,930	246	2,070	2,430	448	40	60
17	19	49	200	118	191	2,450	243	2,470	3,040	353	43	70
18	20	23	197	114	209	1,220	241	2,470	2,570	303	54	64
19	16	20	197	100	214	770	241	2,410	2,370	260	46	62
20	18	22.3	200	102	188	628	223	2,870	2,310	216	42	62
21	18	79	178	112	184	582	217	3,500	2,420	170	41	62
22	23	50	163	128	188	610	207	3,620	2,260	154	41	63
23	23	43	158	144	194	610	199	3,480	2,040	148	44	64
24	21	43	150	157	189	506	197	3,360	2,010	137	48	66
25	18	41	149	161	177	454	188	3,100	2,130	125	58	63
26	11	30	135	160	163	417	189	2,900	2,030	109	52	60
27	7.6	31	118	303	168	383	214	2,810	1,880	99	48	64
28	7.5	468	118	246	188	666	189	2,630	1,820	92	47	62
29	8.6	556	120	482	-----	565	172	2,290	1,840	90	47	61
30	10	298	112	420	-----	423	170	1,910	1,780	84	48	60
31	15	-----	97	320	-----	385	-----	1,460	-----	79	54	-----
Total	632.7	2,194.6	10,155	4,597	5,819	18,149	7,186	53,317	59,373	15,162	1,459	1,888
Mean	20.4	73.2	328	148	208	585	240	1,720	1,979	489	47.1	62.9
Max	33	556	2,460	482	272	3,930	343	3,620	3,040	1,620	73	70
Min	7.5	8.4	97	81	163	176	170	189	758	79	35	56
Ac-ft	1,250	4,350	20,140	9,120	11,540	36,000	14,250	105,800	117,800	30,070	2,890	3,740

Cal yr 1966: Total 86,757.3 Mean 238 Max 2,460 Min 7.5 Ac-ft 172,100
Wtr yr 1967: Total 179,931.3 Mean 493 Max 3,930 Min 7.5 Ac-ft 356,900

Peak discharge (base, 1,400 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-06	1300	10.37	4,790	5-21	2030	10.60	5,160
3-16	1100	11.12	6,080	6-17	2100	9.63	3,740
5-08	2130	7.94	1,990				

SAN JOAQUIN RIVER BASIN

11-2945. NORTH FORK STANISLAUS RIVER NEAR AVERY, CALIF.

LOCATION.--Lat 38°14'45", long 120°17'20", in NE $\frac{1}{4}$ sec.35, T.5 N., R.15 E., on right bank 700 ft upstream from intake of Utica Canal, 3.3 miles upstream from Beaver Creek, and 5.1 miles northeast of Avery.

DRAINAGE AREA.--163 sq mi.

RECORDS AVAILABLE.--July 1914 to September 1925, November 1928 to September 1967. Yearly discharge only for some years, published in WSP 1315-A.

GAGE.--Digital water-stage recorder. Datum of gage is 3,388.3 ft above mean sea level (river-profile survey). Prior to September 1922, staff gage at same site at datum 0.05 ft lower. September 1922 to Nov. 30, 1966, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--50 years, 413 cfs (299,000 acre-ft per year).

EXTREMES.--Maximum discharge during year, 7,850 cfs Mar. 16 (gage height, 9.50 ft); minimum daily, 9.4 cfs Oct. 30.

1914-22, 1928-67: Maximum discharge, 36,000 cfs Jan. 31, 1963 (gage height, 15.00 ft, from floodmarks), from rating curve extended above 14,000 cfs on basis of slope-area measurement at gage height 13.8 ft; minimum daily, 5.5 cfs Dec. 6, 7, 1929.

REMARKS.--Records good. Flow regulated at low and medium stages by Lake Alpine, Spicer Meadows, Union and Utica Reservoirs (combined capacity, 13,600 acre-ft). Diversion of a maximum of 10 cfs during summer from Beaver Creek into river above station. See schematic diagram of Stanislaus River basin.

COOPERATION.--Gage-height record and 12 discharge measurements furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	38	17	329	154	544	351	631	376	1,290	1,780	124	75
2	38	22	873	149	450	351	573	462	1,140	1,590	116	79
3	38	22	961	149	421	387	532	570	1,170	1,480	108	84
4	39	18	456	150	394	342	545	689	1,860	1,290	101	84
5	42	14	954	152	418	299	517	646	2,330	1,150	95	83
6	41	20	3,670	128	409	292	507	758	1,900	1,050	89	82
7	30	30	1,420	140	428	309	513	1,150	2,230	973	83	84
8	30	26	753	137	432	340	510	1,570	2,410	859	80	83
9	29	22	543	130	435	382	540	1,940	2,560	773	76	84
10	29	18	491	128	476	397	558	1,560	2,550	661	73	84
11	30	16	440	131	467	356	520	1,080	2,470	589	70	83
12	30	15	387	136	465	345	480	926	2,380	573	68	87
13	30	15	363	141	497	317	515	956	2,210	525	67	88
14	28	14	330	160	490	315	558	1,180	2,310	515	64	88
15	27	16	312	171	406	328	525	1,780	2,570	470	64	88
16	27	107	315	181	374	4,630	473	2,490	2,730	584	63	87
17	26	95	305	169	352	3,750	486	3,050	3,500	451	69	86
18	26	50	299	160	366	1,890	491	3,100	3,080	396	73	104
19	25	34	298	152	380	1,300	470	3,000	2,670	355	79	90
20	25	287	302	164	335	1,110	446	3,570	2,580	309	71	85
21	21	171	278	322	326	1,020	433	4,500	2,680	260	66	83
22	24	94	251	270	325	1,050	414	4,770	2,560	235	65	83
23	30	75	240	224	329	1,080	403	4,550	2,330	226	64	84
24	31	57	221	232	325	952	407	4,370	2,230	213	72	86
25	29	54	211	219	321	859	392	3,920	2,350	197	72	91
26	25	53	201	215	293	793	391	3,580	2,280	180	90	79
27	20	51	172	354	298	719	433	3,450	2,100	163	75	77
28	12	462	176	427	306	1,060	399	3,200	2,010	154	71	87
29	10	874	179	851	-----	998	364	2,750	2,000	147	68	84
30	9.4	430	173	904	-----	791	361	2,390	1,920	141	68	83
31	11	-----	156	785	-----	706	-----	1,920	-----	133	71	-----
TOTAL	850.4	3,179	16,059	7,785	11,062	27,819	14,387	70,253	68,500	18,422	2,415	2,545
MEAN	27.4	106	518	251	395	897	480	2,266	2,283	594	77.9	84.8
MAX	42	874	3,670	904	844	4,630	631	4,770	3,500	1,780	124	104
MIN	9.4	14	156	128	293	292	361	376	1,140	133	63	75
AC-FT	1,690	6,310	31,850	15,440	21,940	55,180	28,540	139,300	135,900	36,540	4,790	5,050

CAL. YR 1966: TOTAL 112,932.4 MEAN 309 MAX 3,670 MIN 9.4 AC-FT 224,000
WAT. YR 1967: TOTAL 243,276.4 MEAN 667 MAX 4,770 MIN 9.4 AC-FT 482,500

Peak discharge (base, 2,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 6	1315	9.26	7,250	5-22	2200	9.02	6,650
3-16	1615	9.50	7,850	6-17	2230	7.84	4,360
5- 8	2330	6.40	2,360				

SAN JOAQUIN RIVER BASIN

715

11-2954. STANISLAUS RIVER NEAR HATHAWAY PINES, CALIF.

LOCATION.--Lat 38°08'29", long 120°22'19", in NW¼SW¼ sec.6, T.3 N., R.15 E., on right bank 1,000 ft upstream from Stanislaus powerhouse and 3.6 miles south of Hathaway Pines.

DRAINAGE AREA.--629 sq mi.

RECORDS AVAILABLE.--July to September 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is 1,030.00 ft above mean sea level (levels by Pacific Gas and Electric Co.).

EXTREMES (river only).--Maximum discharge during period July to September, 531 cfs July 29 (gage height, 8.59 ft); minimum daily, 38 cfs Aug. 24.

(combined).--Maximum discharge during period July to September, 1,080 cfs July 29; minimum daily, 586 cfs Aug. 24.

REMARKS.--Records excellent. Many diversions above station for hydro-electric powerplants. Small diversions for domestic water supply. Stanislaus tunnel diverts from left bank of Middle Fork Stanislaus River 13.7 miles upstream from station in SE¼ sec.24, T.4 N., R.16 E., to Stanislaus powerplant at Stanislaus 1,000 ft downstream from station. See schematic diagram of Stanislaus River basin. For records of combined discharge of river and tunnel, see following page.

COOPERATION.--Records of diversion to Stanislaus powerplant furnished by Pacific Gas and Electric Co.

DISCHARGE, IN CUBIC FEET PER SECOND, PERIOD JULY TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1										-	425	93
2										-	280	144
3										-	321	152
4										-	312	159
5										-	293	162
6										-		
7										-	392	159
8										-	280	159
9										-	160	160
10										-	157	159
11										-	157	160
12										-	154	160
13										-	152	164
14										-	152	166
15										-	152	164
16										-	134	164
17										-	73	166
18										-	80	166
19										-	53	188
20										-	50	196
21										-	57	180
22										-	46	178
23										-	45	170
24										-	39	172
25										-	33	178
26										-	40	215
27										-	47	141
28										-	60	170
29										453	48	174
30										511	46	176
31										523	43	176
										495	44	-----
Total										-	4,240	4,967
Mean										-	137	166
Max										-	425	215
Min										-	38	93
Ac-Ft										-	8,410	9,350

Cal yr 1966: Total - Mean - Max - Min - Ac-ft -

Wtr yr 1967: Total - Mean - Max - Min - Ac-ft -

SAN JOAQUIN RIVER BASIN

11-2954. Stanislaus River near Hathaway Pines, Calif.--Continued.

Combined discharge, in cubic feet per second, of Stanislaus River and Stanislaus powerplant at Stanislaus, near Hathaway Pines, Calif., period July to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1										-	971	637
2										-	826	689
3										-	866	696
4										-	857	702
5										-	844	706
6										-	838	702
7										-	826	702
8										-	706	704
9										-	704	702
10										-	704	704
11										-	700	703
12										-	697	707
13										-	696	709
14										-	696	708
15										-	677	703
16										-	622	709
17										-	624	710
18										-	597	732
19										-	597	740
20										-	603	724
21										-	593	723
22										-	590	714
23										-	588	716
24										-	586	722
25										-	587	755
26										-	594	699
27										-	606	724
28										998	593	726
29					-----					1060	591	727
30					-----					1070	588	725
31		-----			-----		-----		-----	1040	589	-----
Total										-	21,156	21,325
Mean										-	682	711
Max										-	971	755
Min										-	586	637
Ac-ft										-	41,960	42,300
Cal yr 1966:	Total	-	Mean	-	Max	-	Min	-	Ac-ft	-		
Wtr yr 1967:	Total	-	Mean	-	Max	-	Min	-	Ac-ft	-		

SAN JOAQUIN RIVER BASIN

717

11-2965. SOUTH FORK STANISLAUS RIVER AT STRAWBERRY, CALIF.

LOCATION.--Lat 38°11'51", long 120°00'27", in SW $\frac{1}{4}$ sec.16, T.4 N., R.18 E., on right bank 0.3 mile downstream from bridge on State Highway 108 at Strawberry, 0.6 mile downstream from Herring Creek, and 1.2 miles downstream from Pinecrest Lake.

DRAINAGE AREA.--44.8 sq mi.

RECORDS AVAILABLE.--October 1911 to January 1917, August 1938 to September 1967. Monthly discharge only for October 1913 and yearly estimates for 1912-13, published in WSP 1315-A. Published as "near Confidence", 1911-13.

GAGE.--Digital water-stage recorder. Datum of gage is 5,235.1 ft above mean sea level (river-profile survey). October 1911 to January 1917, staff gage at site 1 mile downstream at different datum. Prior to Feb. 26, 1965, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--34 years (1911-16, 1938-67), 127 cfs (91,940 acre-ft per year).

EXTREMES.--Maximum discharge during year, 1,430 cfs June 30 (gage height, 5.92 ft); minimum daily, 5.0 cfs Nov. 19.

1911-17, 1938-67: Maximum discharge, 3,900 cfs Nov. 21, 1950 (gage height, 9.25 ft), from rating curve extended above 1,100 cfs on basis of contracted-opening measurement of maximum flow at bridge 0.3 mile below station; minimum, 1.3 cfs Nov. 22, 23, 1946.

REMARKS.--Records good. Flow regulated at low and medium stages by Pinecrest Lake beginning in 1916 (capacity, 18,300 acre-ft). No diversion above station. See schematic diagram of Stanislaus River basin.

COOPERATION.--Gage-height record and eight discharge measurements furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	64	27	58	59	68	59	49	52	358	1,050	76	66
2	64	19	64	59	66	60	46	54	274	1,100	70	67
3	64	26	66	59	65	62	49	56	222	989	60	68
4	65	34	62	60	61	60	54	58	262	517	62	68
5	49	37	69	61	57	58	53	57	393	828	60	67
6	40	37	177	60	57	58	52	60	346	786	63	68
7	40	35	85	60	58	58	51	85	463	743	64	69
8	40	29	40	60	58	61	51	127	647	663	65	69
9	39	32	42	60	59	63	51	147	691	583	65	69
10	39	22	53	60	61	64	52	118	697	529	66	68
11	39	26	55	61	62	61	50	98	748	531	67	68
12	39	32	56	61	63	60	51	89	719	562	67	68
13	39	32	56	60	65	61	52	92	678	572	67	68
14	39	32	54	62	64	61	53	111	714	558	67	69
15	31	32	54	63	62	61	52	163	822	454	66	68
16	25	65	57	61	60	183	50	226	901	351	65	68
17	25	54	57	60	59	248	50	282	1,040	370	67	67
18	19	18	56	60	59	179	47	305	1,100	347	67	69
19	16	5.0	56	59	60	133	48	601	977	293	66	69
20	16	24	57	60	59	113	48	857	1,010	259	66	69
21	16	45	56	62	59	107	47	1,030	1,080	230	67	68
22	29	56	59	60	59	110	46	1,130	1,040	184	67	67
23	36	55	62	60	59	108	46	1,120	990	164	67	67
24	36	53	61	60	58	100	45	1,080	1,010	179	67	67
25	36	52	61	59	58	95	44	1,010	1,100	170	73	67
26	36	65	60	60	57	91	45	938	1,080	142	70	67
27	36	82	58	64	58	89	45	908	1,050	134	69	66
28	36	79	60	64	58	76	43	858	1,010	124	68	67
29	36	106	61	75	-----	59	47	703	1,080	112	68	67
30	36	62	59	74	-----	54	50	642	1,150	108	68	67
31	35	-----	59	71	-----	51	-----	507	-----	87	67	-----
TOTAL	1,160	1,273.0	1,930	1,914	1,689	2,703	1,467	13,564	23,652	14,239	2,067	2,032
MEAN	37.4	42.4	62.3	61.7	60.3	87.2	48.9	438	788	459	66.7	67.7
MAX	65	106	177	75	68	248	54	1,130	1,150	1,100	76	69
MIN	16	5.0	40	59	57	51	43	52	222	87	60	66
AC-FT	2,300	2,520	3,830	3,800	3,350	5,360	2,910	26,900	46,910	28,240	4,100	4,030

CAL YR 1966: TOTAL 33,270.0 MEAN 91.2 MAX 582 MIN 5.0 AC-FT 65,990

WAT YR 1967: TOTAL 67,690.0 MEAN 185 MAX 1,150 MIN 5.0 AC-FT 134,300

SAN JOAQUIN RIVER BASIN

11-2970. PHILADELPHIA CANAL NEAR STRAWBERRY, CALIF.

LOCATION.--Lat 38°10'40", long 120°02'45", in NW¼ sec.30, T.4 N., R.18 E., on right bank 250 ft downstream from diversion dam on South Fork Stanislaus River and 2.8 miles southwest of Strawberry.

RECORDS AVAILABLE.--October 1939 to September 1967.

GAGE.--Digital water-stage recorder and concrete control. Datum of gage is 4,960 ft above mean sea level (river-profile survey). Prior to Dec. 20, 1966, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--28 years, 42.7 cfs (30,910 acre-ft per year).

EXTREMES.--1939-67: Maximum daily discharge, 64 cfs in 1941, 1961-63, 1965; no flow at times in some years.

REMARKS.--Records excellent. Canal diverts from right bank of South Fork Stanislaus River for power development in Spring Gap powerplant of Pacific Gas and Electric Co.; tailrace empties into Middle Fork Stanislaus River above station at Sand Bar Flat. See schematic diagram of Stanislaus River basin.

COOPERATION.--Gage-height record and five discharge measurements furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	46	1.3	54	55	57	56	52	52	0	57	57	61
2	46	1.2	55	55	56	56	52	52	0	59	58	61
3	46	7.4	54	55	56	57	52	52	0	59	56	61
4	46	1.3	54	55	56	57	53	53	0	59	58	61
5	36	1.0	55	55	55	57	52	53	.20	59	57	61
6	27	6.6	54	55	55	57	52	54	0	60	59	61
7	27	8.9	50	55	55	58	52	57	14	59	59	61
8	27	.90	46	55	56	59	52	58	50	58	60	61
9	27	.90	44	55	56	59	52	57	62	58	60	61
10	26	4.4	53	55	56	59	52	56	60	59	60	61
11	26	13	53	56	56	59	52	55	60	59	60	61
12	26	20	53	56	56	57	52	55	60	60	60	61
13	26	9.4	53	56	56	57	52	57	60	59	60	61
14	26	2.2	53	56	56	59	52	59	60	60	60	61
15	19	20	53	57	56	52	52	61	59	60	60	61
16	11	41	54	56	56	56	52	59	60	59	60	61
17	11	39	54	56	56	50	52	59	60	60	60	61
18	6.1	20	53	56	56	51	52	56	51	60	60	61
19	1.2	6.3	53	56	56	51	51	57	56	59	60	60
20	1.2	16	53	57	55	52	51	60	56	60	60	60
21	1.2	43	53	57	55	53	51	59	56	60	60	60
22	3.0	54	54	55	55	53	51	18	61	59	60	60
23	4.9	53	55	55	55	53	51	0	62	60	60	60
24	4.9	53	55	55	55	54	51	0	62	62	61	60
25	3.2	53	55	55	55	54	51	0	60	61	61	60
26	.80	54	55	55	55	54	51	0	60	60	61	60
27	.80	56	55	56	55	54	51	0	61	60	61	61
28	.80	48	55	56	55	53	50	0	59	60	61	61
29	.80	53	55	57	-----	52	51	0	62	59	61	61
30	.70	53	55	57	-----	52	51	0	59	55	61	61
31	2.1	-----	55	57	-----	53	-----	0	-----	58	60	-----
TOTAL	530.70	740.80	1,653	1,727	1,557	1,704	1,548	1,199	1,370.20	1,841	1,851	1,822
MEAN	17.1	24.7	53.3	55.7	55.6	55.0	51.6	38.7	45.7	59.4	59.7	60.7
MAX	46	56	55	57	57	59	53	61	62	62	61	61
MIN	.70	.90	44	55	55	50	50	0	0	57	56	60
AC-FT	1,050	1,470	3,280	3,430	3,090	3,380	3,070	2,380	2,720	3,650	3,670	3,610

CAL YR 1966: TOTAL 15,557.60 MEAN 42.6 MAX 62 MIN 0 AC-FT 30,860
WAT YR 1967: TOTAL 17,543.70 MEAN 48.1 MAX 62 MIN 0 AC-FT 34,800

11-2975. TUOLUMNE CANAL NEAR LONG BARN, CALIF.

LOCATION.--Lat 38°05'35", long 120°10'03", in SW $\frac{1}{4}$ sec.24, T.3 N., R.16 E., on left bank 300 ft downstream from intake, 350 ft downstream from Lyons Reservoir on South Fork Stanislaus River, 2 miles west of Long Barn, and 15 miles northeast of Sonora.

RECORDS AVAILABLE.--October 1937 to September 1967.

GAGE.--Digital water-stage recorder and concrete control. Datum of gage is 4,110.0 ft above mean sea level (river-profile survey). Prior to June 1938, graphic water-stage recorder at site 200 ft downstream at different datum. June 1938 to Dec. 15, 1966, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--30 years, 25.0 cfs (18,100 acre-ft per year).

EXTREMES.--1937-67: Maximum daily discharge, 56 cfs May 30, 1963; no flow at times in some years.

REMARKS.--Records excellent. Canal diverts from left bank of South Fork Stanislaus River into Tuolumne River basin for power and domestic supply in vicinity of Sonora. See schematic diagram of Stanislaus River basin.

COOPERATION.--Gage-height record and seven discharge measurements furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	22	15	13	33	27	36	35	31	37	40	40	41
2	22	16	13	33	30	35	35	31	38	40	40	41
3	22	20	13	35	33	35	35	31	38	42	36	41
4	22	20	13	36	32	35	35	31	38	42	34	41
5	22	20	13	35	32	35	35	30	39	43	34	40
6	22	20	13	35	33	37	35	30	47	41	34	41
7	22	21	19	35	33	37	29	30	53	41	34	41
8	22	19	19	35	33	37	24	31	54	42	34	33
9	22	17	25	35	33	38	25	31	53	43	34	30
10	22	16	29	35	34	38	16	30	53	40	34	30
11	22	16	30	35	35	38	25	30	53	40	34	30
12	22	16	30	35	36	38	24	30	53	43	34	30
13	22	16	33	35	35	38	25	30	55	43	34	30
14	22	15	35	35	35	38	25	30	27	41	34	30
15	22	13	31	35	35	35	25	31	26	40	38	30
16	22	13	20	35	35	16	25	31	28	42	40	30
17	22	13	19	35	35	20	25	30	28	45	40	30
18	22	13	19	35	34	24	25	30	32	44	41	30
19	22	13	14	35	34	24	25	30	31	44	41	30
20	22	13	15	35	35	24	25	31	30	44	41	30
21	22	13	15	35	35	25	25	32	31	44	41	30
22	22	13	15	24	36	25	25	33	34	43	41	37
23	22	13	20	31	35	25	25	34	31	43	41	35
24	21	13	20	32	35	25	25	35	30	43	41	30
25	20	13	20	24	35	24	25	35	31	44	41	30
26	19	12	20	25	35	24	25	35	30	44	41	30
27	16	12	15	25	35	28	25	35	28	43	41	30
28	15	12	15	25	36	31	29	35	31	43	41	30
29	15	13	15	25	-----	31	32	35	35	43	41	30
30	15	13	20	27	-----	33	31	35	40	42	41	30
31	15	-----	33	26	-----	35	-----	35	-----	42	41	-----
TOTAL	642	452	624	596	951	964	820	988	1,114	1,214	1,182	991
MEAN	20.7	15.1	20.1	32.1	34.0	31.1	27.3	31.9	37.1	42.4	38.1	33.0
MAX	22	21	35	36	36	38	35	35	54	45	41	41
MIN	15	12	13	24	27	16	16	30	26	40	34	30
AC-FT	1,270	857	1,240	1,980	1,890	1,910	1,630	1,960	2,210	2,610	2,340	1,970
CAL YR 1966: TOTAL	10,992			MEAN 30.1	MAX 52	MIN 10	AC-FT 21,800					
WAT YR 1967: TOTAL	11,038			MEAN 30.2	MAX 54	MIN 12	AC-FT 21,890					

SAN JOAQUIN RIVER BASIN

11-2980. SOUTH FORK STANISLAUS RIVER NEAR LONG BARN, CALIF.

LOCATION.--Lat 38°05'33", long 120°10'02", in SW $\frac{1}{4}$ sec.24, T.3 N., R.16 E., on left bank 600 ft downstream from Lyons Dam, 2 miles west of Long Barn, and 15 miles northeast of Sonora.

DRAINAGE AREA.--66.9 sq mi.

RECORDS AVAILABLE.--October 1937 to September 1967. Monthly discharge only for some periods, published in WSP 1315-A.

GAGE.--Digital water-stage recorder and masonry control. Datum of gage is 4,073.4 ft above mean sea level (river-profile survey). Prior to Jan. 26, 1967, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--30 years, 86.8 cfs (62,840 acre-ft per year).

EXTREMES.--Maximum discharge during year, 1,470 cfs May 23 (gage height, 6.08 ft); minimum daily, 1.7 cfs Oct. 18, Nov. 12-14, Feb. 20.

1937-67: Maximum discharge, 4,900 cfs Nov. 21, 1950 (gage height, 9.3 ft), from rating curve extended above 1,100 cfs on basis of computation of maximum flow over Lyons Dam; no flow at times in 1937-39, 1952.

REMARKS.--Records good. Flow regulated by Lyons Reservoir (capacity, 5,400 acre-ft) and Pinecrest Lake (capacity, 18,300 acre-ft). Tuolumne Canal (see sta. no. 2975) diverts at Lyons Dam; other diversions, see schematic diagram of Stanislaus River basin.

COOPERATION.--Gage-height record and six discharge measurements furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	2.1	2.1	2.1	2.1	126	2.1	46	44	406	1,130	2.6	2.1
2	2.1	2.1	2.8	2.1	86	2.1	39	57	292	1,070	2.3	2.0
3	2.1	2.1	2.3	2.1	61	2.3	33	80	230	1,050	2.0	2.1
4	2.1	2.1	2.1	2.1	49	2.2	44	110	237	909	2.0	2.1
5	2.1	2.1	2.8	2.1	35	2.1	44	132	352	837	2.1	2.1
6	2.1	2.1	2.8	2.1	29	2.1	49	139	345	733	2.1	2.1
7	2.1	2.1	2.6	2.1	26	2.1	69	181	370	707	2.1	2.1
8	2.1	1.9	2.3	2.1	24	2.1	56	249	552	616	2.1	2.0
9	2.1	1.9	2.1	2.1	21	2.0	60	333	607	536	2.1	2.0
10	2.1	1.9	2.1	2.1	16	1.9	81	410	598	356	2.1	2.1
11	2.1	1.9	2.1	2.1	12	2.1	70	298	662	222	1.8	2.1
12	2.1	1.7	1.9	2.1	13	2.5	59	228	650	363	2.1	2.1
13	2.1	1.7	1.9	2.1	14	2.2	67	195	605	461	2.3	2.0
14	2.1	1.7	2.1	2.1	17	2.1	75	185	613	470	2.3	1.9
15	1.9	1.9	11	2.1	14	6.1	74	217	724	446	2.3	2.1
16	1.9	2.6	7.0	2.2	10	341	62	290	858	301	2.3	2.2
17	1.9	2.1	2.1	2.2	7.4	592	65	347	963	246	2.1	2.3
18	1.7	1.9	2.1	2.2	5.6	384	84	376	1,130	253	2.0	2.3
19	1.9	1.9	7.0	2.2	3.3	269	63	531	1,010	207	1.9	2.3
20	2.1	2.3	7.0	2.2	1.7	209	53	880	952	153	2.0	2.2
21	2.1	2.3	7.0	2.2	2.0	180	53	1,080	1,090	134	2.3	2.1
22	2.1	2.3	7.0	2.2	2.1	170	48	1,220	1,070	107	2.3	2.1
23	2.1	2.1	7.0	2.2	2.1	168	43	1,250	1,010	52	2.2	2.2
24	2.1	2.1	2.1	2.2	2.1	149	44	1,190	974	76	2.0	2.3
25	2.1	2.1	2.1	2.2	2.1	127	43	1,140	1,080	73	2.2	2.1
26	2.1	2.1	2.1	2.3	1.9	111	47	1,050	1,100	54	2.2	2.2
27	2.1	1.9	7.0	2.3	2.1	94	60	1,000	1,060	36	2.2	2.1
28	2.1	2.1	7.0	2.4	2.1	108	50	985	1,030	27	2.1	2.0
29	2.1	2.1	7.0	2.8	-----	85	40	766	1,040	21	2.1	2.0
30	2.1	2.1	7.0	95	-----	65	42	692	1,150	12	2.1	2.1
31	2.1	-----	2.1	198	-----	59	-----	555	-----	6.8	2.1	-----
TOTAL	63.9	61.3	125.6	356.3	587.5	3,147.0	1,663	16,210	22,760	11,664.8	66.4	63.4
MEAN	2.06	2.04	4.05	11.5	21.0	102	55.4	523	759	376	2.14	2.11
MAX	2.1	2.6	11	198	126	592	84	1,250	1,150	1,130	2.6	2.3
MIN	1.7	1.7	1.9	2.1	1.7	1.9	33	44	230	6.8	1.8	1.9
AC-FT	127	122	249	707	1,170	6,240	3,300	32,150	45,140	23,140	132	126

CAL. YR 1966: TOTAL 11,435.30 MEAN 31.3 MAX 492 MIN .90 AC-FT 22,680
 NAT. YR 1967: TOTAL 56,769.2 MEAN 156 MAX 1,250 MIN 1.7 AC-FT 112,600

Note.--No gage-height record Dec. 15 to Jan. 26.

SAN JOAQUIN RIVER BASIN

721

11-2990. MELONES RESERVOIR AT MELONES DAM, CALIF.

LOCATION.---Lat 37°57'15", long 120°30'45", near center of sec.11, T.1 N., R.13 E., at gate tower near left bank at Melones Dam on Stanislaus River, 0.1 mile downstream from Bear Creek, and 7.5 miles southwest of Sonora.

DRAINAGE AREA.---904 sq mi.

RECORDS AVAILABLE.---1926 (year-end content only, published in WSP 1315-A), June 1927 to September 1967.

GAGE.---Graphic water-stage recorder. Datum of gage is at mean sea level (levels by Pacific Gas and Electric Co.). Prior to Feb. 28, 1961, staff gage at same site and datum.

EXTREMES.---Maximum contents during year, 115,200 acre-ft July 16 (elevation, 736.4 ft); minimum, 3,880 acre-ft Oct. 7, 8 (elevation, 617.0 ft).
1927-67: Maximum contents observed, 115,800 acre-ft May 27, 1951 (elevation, 736.7 ft); minimum observed, 3,220 acre-ft Dec. 7, 1957 (elevation, 613.5 ft).

REMARKS.---Reservoir is formed by concrete overflow dam; storage began Aug. 21, 1926; dam completed in December 1926. Capacity for power development 1 mile below dam is 106,100 acre-ft between elevations 628.0 (minimum operating level) and 735.0 ft (top of drum-type spillway gates) above mean sea level; usable capacity for irrigation, 110,000 acre-ft between elevation 610.0 (floor of outlet tunnel) and 735.0 ft above mean sea level. Figures given herein represent total contents, of which 2,630 acre-ft is not available for release. Released water flows down Stanislaus River to Tulloch Reservoir (see sta. no. 2999.95). See schematic diagram of Stanislaus River basin.

COOPERATION.---Record of elevation furnished by Oakdale Irrigation District. Capacity table furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project.

CAPACITY TABLE (ELEVATION, IN FEET, AND CONTENTS, IN ACRE-FT)

610	2,630	660	21,500
615	3,500	665	25,000
620	4,480	670	28,900
625	5,650	680	37,600
630	7,070	690	47,600
635	8,750	700	59,100
640	10,700	710	72,200
645	12,900	720	86,900
650	15,400	730	103,500
655	18,300	736.7	115,800

CONTENTS, IN THOUSANDS OF ACRE-FEET, AT 2400 HOURS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.74	10.8	38.8	65.1	93.6	80.9	93.0	58.2	96.0	103.0	107.3	55.4
2	6.53	10.8	42.0	65.8	93.0	80.1	92.8	55.2	95.0	102.6	106.0	53.7
3	6.08	10.9	45.4	66.4	92.7	79.0	92.8	52.6	94.5	104.7	104.6	52.1
4	4.99	10.6	45.6	67.1	92.0	78.1	92.8	50.4	95.2	106.6	103.8	50.5
5	4.23	10.6	49.8	67.6	91.4	77.0	93.0	48.5	96.2	105.1	103.5	49.1
6	3.91	10.7	65.0	68.2	91.0	75.8	94.1	46.9	95.5	106.0	103.1	47.5
7	3.88	10.9	70.1	68.9	90.4	74.8	95.3	45.8	95.7	105.6	102.1	45.9
8	3.88	11.1	71.1	69.3	90.1	75.1	94.5	46.4	96.2	105.8	100.6	44.2
9	4.09	11.6	70.5	69.7	89.6	76.2	93.6	48.6	96.3	106.7	99.0	42.9
10	4.72	11.8	69.7	70.4	89.3	77.6	93.6	51.3	96.3	108.4	97.2	41.3
11	5.18	12.2	68.7	70.9	88.8	79.6	94.1	51.2	96.5	109.8	95.3	39.8
12	5.55	12.5	67.4	71.4	88.5	82.4	93.6	49.8	96.3	111.7	93.6	38.3
13	5.99	12.9	66.0	71.8	88.0	84.2	93.3	49.1	96.3	113.7	91.8	36.9
14	6.44	13.1	65.0	72.2	87.9	84.5	91.4	49.6	96.2	114.3	89.9	35.4
15	7.29	13.3	65.0	72.6	87.2	84.5	88.5	51.4	96.5	114.5	88.2	34.2
16	8.46	13.8	64.7	73.1	86.8	98.5	85.3	55.1	98.0	115.0	86.5	32.7
17	9.68	15.0	64.1	73.5	85.7	100.4	82.3	60.0	99.7	114.3	84.5	31.2
18	11.0	16.5	63.1	73.8	84.8	98.5	80.2	66.7	100.1	114.1	82.9	30.0
19	11.9	17.3	62.0	73.9	83.9	96.7	82.6	73.8	101.6	113.9	80.8	29.1
20	12.3	18.8	61.3	74.2	83.3	94.8	80.9	82.1	102.8	113.5	78.7	27.3
21	12.7	21.0	61.3	78.0	82.6	94.1	80.6	92.3	103.3	113.5	76.8	26.0
22	12.6	23.2	61.0	83.5	81.5	93.8	79.3	97.0	103.6	113.2	74.8	24.7
23	12.4	25.0	60.8	83.3	81.4	93.8	77.7	96.5	103.3	112.6	72.8	23.4
24	12.4	26.4	61.0	84.2	81.8	93.6	76.2	98.4	103.3	112.6	70.8	22.1
25	12.2	27.5	61.2	85.1	82.6	93.3	74.1	97.5	103.3	112.2	68.7	21.0
26	11.9	28.8	61.2	84.7	83.0	93.0	71.6	99.4	103.3	112.1	66.7	20.6
27	11.6	29.2	61.5	84.4	83.0	92.8	69.3	99.9	103.1	111.5	64.7	19.3
28	11.2	31.3	62.0	84.2	82.0	93.3	66.4	99.9	103.0	110.8	62.8	18.0
29	11.0	35.3	62.8	87.7	-----	93.3	63.6	99.0	103.0	110.0	61.0	16.8
30	10.6	37.5	63.7	91.8	-----	93.0	60.5	98.4	103.0	109.1	58.9	15.5
31	10.6	-----	64.4	94.6	-----	93.0	-----	97.5	-----	108.4	57.1	-----
(†)	639.8	679.9	704.2	724.8	716.7	723.8	701.1	726.5	729.7	732.7	698.3	650.1
(‡)	+ 3,340	+26,900	+26,900	+30,200	-12,600	+11,000	-32,500	+37,000	+5,500	+5,400	-51,300	-41,600
Max	12.7	37.5	71.1	94.6	93.6	100.4	95.3	99.9	103.6	115.0	107.3	55.4
Min	3.88	10.6	38.8	65.1	81.4	74.8	60.5	45.8	94.5	102.6	57.1	15.5

Cal year 1966..... † + 34,100

Wat year 1967..... † + 8,240

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-feet.

SAN JOAQUIN RIVER BASIN

11-2995. STANISLAUS RIVER BELOW MELONES POWERHOUSE, NEAR SONORA, CALIF.

LOCATION.--Lat 37°56'50", long 120°31'45", in SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec.10, T.1 N., R.13 E., on right bank 300 ft downstream from powerhouse, 0.5 mile upstream from Bean Gulch, 1 mile downstream from Melones Dam, and 8.4 miles south-west of Sonora.

DRAINAGE AREA.--905 sq mi.

RECORDS AVAILABLE.--January 1931 to September 1967 (discontinued). Prior to October 1962, published as "below Melones powerhouse."

GAGE.--Graphic water-stage recorder. Datum of gage is 500.65 ft above mean sea level (levels by Corps of Engineers).

AVERAGE DISCHARGE.--36 years, 1,498 cfs (1,085,000 acre-ft per year), unadjusted.

EXTREMES.--Maximum daily discharge during year, 12,900 cfs May 24; maximum gage height, 15.00 ft May 25 (backwater from road construction); minimum daily discharge, 0.40 cfs Oct. 17.

1931-67: Maximum discharge, 62,800 cfs Dec. 23, 1955 (gage height, 29.0 ft, from floodmarks), from rating curve extended above 14,000 cfs on basis of computed flow over Melones Dam; minimum daily, 0.4 cfs Jan. 19, 20, 1943, Oct. 17, 1966.

REMARKS.--Records fair. Flow regulated by Melones Reservoir (see sta. no. 2990), Pinecrest, Beardsley, Donnell Lakes, Lyons and Relief Reservoirs (combined capacity, 312,300 acre-ft). Several diversions above station. Backwater from Tulloch Reservoir affects record at times since storage began on Nov. 25, 1957. See schematic diagram of Stanislaus River basin.

COOPERATION.--Gage-height record and seven discharge measurements furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	785	475	349	423	3,000	1,660	2,420	3,470	7,350	8,380	1,640	1,590
2	610	495	895	423	2,400	1,660	2,270	3,750	5,570	8,090	1,640	1,590
3	555	518	1,440	423	1,980	1,660	2,120	3,760	4,420	6,320	1,630	1,580
4	531	526	1,440	407	1,750	1,660	2,090	3,730	4,780	6,130	1,330	1,580
5	504	526	1,470	415	1,670	1,650	2,340	3,710	6,520	7,290	1,120	1,570
6	328	526	1,500	415	1,660	1,660	2,440	3,670	6,790	4,410	1,110	1,570
7	233	526	1,520	419	1,650	1,550	2,580	3,640	6,580	4,310	1,370	1,570
8	183	508	1,520	419	1,650	1,110	3,820	3,640	7,460	3,730	1,590	1,560
9	54	387	1,530	419	1,650	516	2,970	3,650	8,030	2,860	1,560	1,530
10	1.5	387	1,530	415	1,650	516	2,750	4,020	8,380	2,330	1,560	1,530
11	64	443	1,520	411	1,650	516	2,970	4,230	9,000	2,090	1,590	1,510
12	1.7	443	1,520	415	1,650	516	2,930	4,200	8,460	1,900	1,590	1,510
13	.60	443	1,510	403	1,650	1,230	2,570	4,190	8,040	1,950	1,600	1,510
14	2.4	479	1,160	403	1,650	1,640	3,540	4,200	6,630	2,630	1,540	1,510
15	1.3	504	790	399	1,650	1,640	4,080	4,240	8,150	2,820	1,530	1,500
16	.60	555	790	407	1,420	2,840	4,070	4,300	7,810	3,410	1,570	1,500
17	.40	287	1,180	419	1,670	10,100	4,060	4,400	8,170	3,040	1,640	1,500
18	.70	2.0	1,510	415	1,670	7,340	4,230	4,490	8,660	2,640	1,630	1,490
19	1.7	2.0	1,510	415	1,670	5,040	4,040	4,600	7,220	2,840	1,620	1,490
20	1.7	2.5	1,230	415	1,530	4,370	4,020	4,690	7,850	2,220	1,610	1,490
21	1.8	2.6	1,050	427	1,470	3,340	4,000	4,840	8,600	1,960	1,600	1,480
22	265	3.0	1,050	1,630	1,660	3,000	3,860	9,290	8,950	1,850	1,600	1,470
23	570	3.3	930	1,620	1,210	2,910	4,000	12,000	9,920	1,600	1,600	1,450
24	570	2.6	795	1,620	875	2,840	3,980	12,900	8,670	1,620	1,600	1,440
25	615	2.6	800	1,630	880	2,580	3,980	12,200	8,730	1,620	1,600	1,430
26	675	2.5	800	1,630	880	2,360	3,940	10,500	8,730	1,680	1,600	887
27	670	2.5	800	1,610	1,200	2,170	3,920	12,700	8,650	1,680	1,600	1,410
28	665	2.6	590	1,620	1,660	2,160	3,880	12,600	8,470	1,680	1,600	1,410
29	665	2.6	415	1,630	- - - - -	2,610	3,830	11,600	8,380	1,640	1,600	1,410
30	665	2.6	419	1,640	- - - - -	2,360	3,800	10,100	8,370	1,640	1,590	1,410
31	550	- - - - -	423	2,690	- - - - -	2,350	- - - - -	8,450	- - - - -	1,640	1,590	- - - - -
Total	9,786.70	8,061.4	33,986	26,027	45,105	77,554	103,500	197,760	232,340	98,000	48,050	44,477
Mean	316	269	1,096	840	1,611	2,502	3,450	6,379	7,745	3,161	1,550	1,483
Max	785	555	1,530	2,690	3,000	10,100	4,580	12,900	9,000	8,380	1,640	1,590
Min	.40	2.0	349	399	875	516	2,090	3,470	4,420	1,600	1,110	887
Ac-ft	19,410	15,990	67,410	51,620	89,460	153,800	205,300	392,300	460,800	194,400	95,310	88,220

Cal yr 1966: Total 349,992.5 Mean 959 Max 1,610 Min .40 Ac-ft 694,200
Wtr yr 1967: Total 924,647.1 Mean 2,533 Max 12,900 Min .40 Ac-ft 1,834,000

Note.--Backwater from Tulloch Reservoir or road construction Mar. 7 to Sept. 30.

SAN JOAQUIN RIVER BASIN

723

11-2999.95. TULLOCH RESERVOIR NEAR KNIGHTS FERRY, CALIF.

LOCATION.--Lat 37°52'34", long 120°36'12", in SW¼ sec.1, T.1 S., R.12 E., in center of dam on Stanislaus River 1.9 miles upstream from Goodwin Dam, and 5.3 miles northeast of Knights Ferry.

DRAINAGE AREA.--980 sq mi.

RECORDS AVAILABLE.--November 1957 to September 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is at mean sea level (levels by Oakdale and South San Joaquin Irrigation Districts).

EXTREMES.--Maximum contents during year, 67,200 acre-ft July 16 (elevation, 510.2 ft); minimum, 23,200 acre-ft Oct. 21 (elevation, 459.4 ft).

1957-67: Maximum contents, 69,500 acre-ft Jan. 7, 1965 (elevation, 512.0 ft); minimum, 4,580 acre-ft Oct. 3, 1960 (elevation, 404.0 ft).

REMARKS.--Reservoir is formed by gravity-type concrete dam completed in October 1957. Usable capacity, 56,840 acre-ft between elevations 431.0 (normal minimum water surface) and 511.0 ft (top of radial gates) above mean sea level. Dead storage, 11,560 acre-ft. Reservoir is used for conservation and power. Water passes down Stanislaus River, some first passing through powerplant at dam. Part of flow is diverted at Goodwin dam to Oakdale Canal (see sta. no. 3010) and South San Joaquin Canal (see sta. no. 3005). Records represent total contents. See schematic diagram for Stanislaus River basin.

CAPACITY TABLE (ELEVATION, IN FEET, AND CONTENTS, IN ACRE-FT)

404	4,580	460	23,600
411	6,020	475	33,100
420	8,200	490	45,300
430	11,100	512	69,500
445	16,400		

Contents, in thousands of acre-feet, at 2400 hours, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	23.8	29.4	29.7	49.3	44.3	45.8	56.8	45.2	44.4	60.0	62.0	54.8
2	23.8	29.5	32.1	49.9	44.2	48.2	55.4	45.0	41.3	59.9	63.3	54.4
3	23.8	29.6	34.5	49.7	44.4	50.4	54.8	44.9	40.7	58.0	64.6	54.4
4	23.6	29.4	37.1	49.4	44.7	52.8	55.0	44.1	40.9	58.8	65.1	54.7
5	23.7	29.2	39.3	49.2	44.9	55.0	55.8	42.7	42.0	61.0	65.4	54.3
6	23.9	29.0	40.2	49.0	45.0	57.3	55.7	42.0	41.8	60.6	64.9	54.0
7	24.2	28.7	38.6	48.8	45.0	60.0	56.6	41.8	41.9	63.0	64.4	53.6
8	24.4	28.3	38.2	48.6	45.1	62.0	55.2	41.7	42.3	65.6	63.8	53.3
9	24.5	28.4	38.0	48.4	45.1	62.4	52.4	40.4	42.5	66.3	63.3	53.0
10	24.3	28.6	37.9	48.6	45.1	62.8	49.8	40.5	42.6	66.5	62.9	52.5
11	24.4	28.7	37.9	49.4	45.1	64.0	48.9	40.5	43.2	66.5	62.8	52.0
12	24.3	28.8	38.8	49.9	45.1	62.8	47.3	40.4	44.9	66.5	62.6	51.7
13	24.2	28.8	40.3	50.6	45.1	62.0	45.4	40.4	47.4	66.1	62.3	51.4
14	24.1	28.9	41.3	51.4	45.1	62.0	45.3	40.4	48.9	66.5	61.8	51.1
15	24.1	28.8	41.3	51.7	45.1	61.8	46.0	40.4	53.0	67.0	61.3	51.0
16	23.9	29.4	41.3	52.6	44.7	61.3	46.4	40.5	58.2	67.1	60.8	50.9
17	23.8	27.9	42.1	53.4	44.6	65.2	46.6	40.7	62.7	66.6	60.4	50.7
18	23.7	28.0	43.6	53.8	44.6	64.0	48.7	40.7	64.6	66.6	60.1	50.6
19	23.5	28.1	45.1	54.7	44.6	60.1	48.8	40.7	62.9	66.6	59.8	50.6
20	23.3	28.1	46.0	55.4	44.2	56.7	48.6	40.7	62.7	66.5	59.3	50.5
21	23.2	27.9	46.5	56.6	43.8	55.5	49.5	40.8	63.8	66.2	59.0	50.6
22	23.5	28.1	46.9	56.0	43.8	55.3	49.3	43.3	64.6	65.7	58.6	50.7
23	24.5	28.0	47.4	56.6	42.9	55.2	49.1	43.9	63.9	65.1	58.3	50.7
24	25.1	28.1	48.0	57.6	41.7	55.3	48.9	45.3	62.9	64.2	57.8	50.8
25	26.5	28.3	48.6	58.2	41.4	54.9	48.5	47.8	62.0	63.5	57.4	50.9
26	27.5	28.8	49.2	55.3	41.0	54.7	48.0	47.3	61.0	62.8	57.0	50.1
27	28.2	28.8	49.8	49.7	41.3	54.7	47.5	50.1	60.1	62.1	56.6	50.4
28	28.2	29.2	49.9	46.1	43.4	55.0	47.0	53.3	59.9	61.4	56.2	50.6
29	28.5	29.5	49.7	45.5	-----	56.5	46.5	54.9	59.9	60.7	55.7	50.9
30	29.0	29.4	49.5	44.3	-----	57.8	46.2	53.6	59.8	60.1	55.3	51.4
31	29.4	-----	49.3	44.0	-----	58.0	-----	49.6	-----	60.8	55.0	-----
(†)	469.6	469.6	494.2	488.5	487.9	502.5	490.9	494.5	504.0	504.9	499.7	496.3
(‡)	+6,000	0	+19,900	-5,300	-600	+14,500	-11,800	+3,400	+10,200	+1,000	+5,800	+3,600
Max	29,400	29,600	49,900	58,200	45,100	65,200	56,800	54,900	64,600	67,100	65,400	54,800
Min	23,200	27,900	29,700	44,000	41,000	45,300	45,300	40,400	40,700	58,000	55,000	50,100

Calendar year 1966..... † +5,100
Water year 1966-67..... ‡ +28,000

Max 66,600
Max 67,100
Min 23,200
Min 23,200

† Elevation, in feet, at end of month.
‡ Change in contents, in acre-feet.

SAN JOAQUIN RIVER BASIN

11-3005. SOUTH SAN JOAQUIN CANAL NEAR KNIGHTS FERRY, CALIF.

LOCATION.--Lat 37°51'10", long 120°38'15", in sec.15, T.1 S., R.12 E., on left bank 0.8 mile downstream from headgate at Goodwin Dam and 3 miles upstream from Knights Ferry.

RECORDS AVAILABLE.--May 1914 to September 1967. Monthly and yearly discharge only for some periods, published in WSP 1315-A.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 334.18 ft above mean sea level (levels by Oakdale Irrigation District). Prior to Mar. 12, 1915, staff gage 100 ft downstream. Mar. 12, 1915, to July 1, 1921, staff gage at present site and datum.

AVERAGE DISCHARGE.--53 years, 411 cfs (297,600 acre-ft per year).

EXTREMES.--1914-67: Maximum discharge, 1,330 cfs May 2, 1962; no flow at times each year except 1951.

REMARKS.--Records excellent. Canal diverts from right bank of Stanislaus River at Goodwin Dam for irrigation in Oakdale and South San Joaquin Irrigation Districts. See schematic diagram for Stanislaus River basin.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	292	409	7.9	5.5	0	33	527	26	1270	1240	387	1190
2	291	399	131	6.4	0	6.0	527	26	1240	1240	390	1190
3	292	399	354	1.4	0	4.3	524	26	1210	1160	395	1140
4	282	409	357	.80	0	0	511	344	1230	1240	399	797
5	266	383	169	.80	0	0	507	581	1140	1270	403	1220
6	261	376	4.2	5.8	0	0	340	691	1090	1270	726	1190
7	133	386	3.1	10	0	.30	83	734	1090	1150	1020	1190
8	60	357	2.8	10	0	1.0	83	824	1060	1240	1220	1190
9	60	378	1.7	4.8	0	106	58	866	1040	1290	1250	1190
10	39	415	1.0	.90	0	180	76	861	1040	1280	1240	1200
11	12	437	.90	0	0	28	32	863	1050	1280	1150	1180
12	30	440	.90	0	0	46	5.0	779	1040	1280	1210	1160
13	28	440	.90	3.0	0	19	2.8	737	1030	1300	1220	1150
14	29	437	.90	4.3	0	3.6	17	747	1060	1300	1220	1150
15	29	437	.90	9.1	0	3.6	26	770	1100	1300	1230	1110
16	29	275	.90	5.9	36	5.0	25	804	1160	1310	1230	1080
17	24	3.9	14	.20	243	6.7	24	840	1210	1290	1220	1080
18	20	3.4	12	.10	343	6.7	9.6	871	1220	1300	1230	1080
19	17	2.8	6.0	.10	343	3.6	.8	1060	1200	1290	1230	1020
20	19	2.8	3.3	.20	343	2.1	.8	1190	1200	1300	1230	994
21	20	2.1	1.4	6.2	342	1.4	1.2	1320	1200	1300	1230	947
22	20	1.7	1.4	6.3	104	.90	.8	1220	1200	1300	1230	926
23	21	1.7	1.4	0	2.4	.90	.8	1230	1200	1300	1230	920
24	25	1.4	2.9	.40	2.4	1.5	.8	1230	1210	1300	1220	917
25	31	3.8	5.0	.10	2.4	3.6	.6	1240	1230	1300	1230	854
26	29	11	5.0	0	1.6	8.6	.1	1260	1230	1300	1230	821
27	335	20	5.0	0	0	198	.1	1260	1230	1300	1230	817
28	523	14	5.0	0	28	400	17	1270	1240	1300	1230	817
29	474	14	5.0	.20	- - - - -	434	19	1280	1240	1300	1240	754
30	423	11	3.3	.30	- - - - -	577	23	1280	1240	1290	1230	658
31	419		.90	0	- - - - -	565	- - - - -	1280	- - - - -	726	1190	- - - - -
Total	4,533	6,470.6	1,108.70	82.80	1,795.8	2,645.8	3,447.4	27,410	34,900	39,046	33,090	30,932
Mean	146	216	35.8	2.67	64.1	85.3	115	884	1163	1260	1067	1031
Max	523	440	357	10	343	577	527	1280	1270	1310	1250	1220
Min	12	1.4	0.90	0	0	0	0.1	26	1030	726	387	658
Ac-ft	8,990	12,830	2,200	164	3,560	5,250	6,840	54,370	69,220	77,450	65,630	61,350

Cal yr 1966: Total 180,031.9 Mean 493 Max 1,150 Min 0 Ac-ft 357,100
Wtr yr 1967: Total 185,462.1 Mean 508 Max 1,310 Min 0 Ac-ft 367,900

SAN JOAQUIN RIVER BASIN

725

11-3010. OAKDALE CANAL NEAR KNIGHTS FERRY, CALIF.

LOCATION.--Lat 37°51'30", long 120°38'00", in SE $\frac{1}{4}$ sec.10, T.1 S., R.12 E., on left bank 1,835 ft downstream from headgate at Goodwin Dam and 4 miles upstream from Knights Ferry.

RECORDS AVAILABLE.--May 1914 to September 1967. Records for water years 1933-36 incomplete, monthly and yearly estimates published in WSP 1315-A.

GAGE.--Graphic water-stage recorder. Altitude of gage is 350 ft (from topographic map). Prior to Apr. 29, 1916, staff gage at site 1,000 ft upstream at different datum. Apr. 29, 1916, to July 3, 1925, staff gage and July 4, 1925, to Apr. 3, 1949, graphic water-stage recorder, at present site at datum 0.18 ft higher.

AVERAGE DISCHARGE.--53 years, 151 cfs (109,300 acre-ft per year).

EXTREMES.--1914-67: Maximum daily discharge, 556 cfs July 8-11, 1967; no flow at times in each year.

REMARKS.--Records excellent. Canal diverts water from left bank of Stanislaus River at Goodwin Dam for irrigation in Oakdale Irrigation District. See schematic diagram for Stanislaus River basin.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	385	1.6	0.10	0	0.20	0	12	0	544	545	554	492
2	381	1.3	.20	0	.30	0	12	0	542	547	554	491
3	377	1.3	.20	0	.10	0	12	0	531	549	554	490
4	384	1.5	.20	0	.10	0	12	0	527	554	555	499
5	277	1.0	.60	0	.10	0	12	99	339	555	554	497
6	43	1.0	2.0	0	.10	0	12	241	240	555	551	493
7	19	1.2	.50	0	.10	0	14	256	239	553	554	494
8	11	1.0	.30	0	.10	0	13	407	264	556	552	494
9	10	.10	.20	0	.10	0	13	420	495	556	549	495
10	10	.10	.20	0	.10	0	13	362	519	556	549	498
11	11	0	.20	0	.10	.10	5.7	422	518	556	545	496
12	9.9	0	.10	0	.10	.10	.80	429	524	555	554	493
13	9.5	0	.10	0	0	.20	.30	448	526	555	553	493
14	11	0	.10	9.4	0	.20	2.9	457	527	555	552	484
15	11	0	.10	7.5	0	.10	3.2	460	527	555	554	434
16	11	.10	.10	0	0	.40	3.5	477	531	555	536	426
17	11	0	.10	0	0	.20	1.7	493	547	554	554	426
18	11	0	.10	0	0	.20	.70	502	545	555	550	426
19	11	0	.10	0	0	.10	.40	520	545	554	543	425
20	11	.10	.10	0	0	.10	.40	532	545	554	542	426
21	7.4	0	.10	1.2	0	.10	.60	534	546	555	542	423
22	.90	.10	.10	1.0	0	.10	.40	542	546	555	541	420
23	.80	0	0	.20	0	.10	.40	545	545	554	543	420
24	1.0	0	0	.60	1.2	.10	.40	545	547	554	545	417
25	1.2	0	0	.40	7.1	.10	.30	545	546	554	544	409
26	1.5	0	0	.20	3.6	.10	.20	546	546	554	545	406
27	2.3	0	0	.20	0	.10	.20	546	546	554	545	405
28	2.5	0	0	.20	0	.10	.20	546	546	555	545	406
29	2.8	0	0	.40	-----	.23	.10	545	546	555	545	406
30	2.3	0	0	.60	-----	112	.10	545	546	555	545	409
31	2.0	-----	0	.40	-----	37	-----	546	-----	552	497	-----
Total	2029.10	10.40	5.80	22.30	13.40	174.50	147.50	12510	15033	17171	16946	13593
Mean	65.5	0.35	0.19	0.72	0.48	5.63	4.92	404	501	554	547	453
Max	385	1.6	2.0	9.4	7.1	112	14	546	547	556	555	499
Min	0.80	0	0	0	0	0	0.1	0	239	545	497	405
Ac-ft	4,020	21	12	44	27	346	293	24,810	29,820	34,060	33,610	26,960

Cal yr 1966: Total 77,285.70 Mean 212 Max 512 Min 0 Ac-ft 153,300
Wtr yr 1967: Total 77,656.00 Mean 213 Max 556 Min 0 Ac-ft 154,000

SAN JOAQUIN RIVER BASIN

11-3020. STANISLAUS RIVER BELOW GOODWIN DAM, NEAR KNIGHTS FERRY, CALIF.

LOCATION.--Lat 37°51'01", long 120°38'13", in $\frac{N}{4}$ sec.15, T.1 S., R.12 E., on right bank 0.1 mile upstream from Owl Creek, 1.0 mile downstream from Goodwin Dam, and 3 miles northeast of Knights Ferry.

DRAINAGE AREA.--986 sq mi.

RECORDS AVAILABLE.--February 1957 to September 1967. Records equivalent to those published as Stanislaus River at Knights Ferry, 1903-14, and as Stanislaus River near Knights Ferry, 1915-32, if adjusted for diversions in Stanislaus and San Joaquin Water Company's canal, and Oakdale and South San Joaquin canals.

GAGE.--Graphic water-stage recorder. Datum of gage is 252.83 ft above mean sea level.

AVERAGE DISCHARGE.--10 years, 676 cfs (489,400 acre-ft per year).

EXTREMES.--Maximum discharge during year, 9,430 cfs May 24 (gage height, 16.35 ft); minimum daily, 0.80 cfs Oct. 6.

1957-67: Maximum discharge, 40,200 cfs Dec. 24, 1964 (gage height, 28.85 ft in gage well, 31.2 ft outside, from floodmarks), from rating curve extended above 14,000 cfs; minimum daily, 0.3 cfs Sept. 13, 14, Oct. 1, 1960.

Flood of Dec. 23, 1955, reached a peak discharge of 62,900 cfs (gage height, 37.7 ft, from floodmarks), by computation of flow over Goodwin Dam.

REMARKS.--Records good. Flow regulated by reservoirs and powerplants at Donnell, Beardsley Lake, Melones, Tulloch, and several smaller reservoirs above station. South San Joaquin Canal (see sta. no. 3005) and Oakdale Canal (see sta. no. 3010) divert at Goodwin Dam 1.0 mile upstream. See schematic diagram for Stanislaus River basin. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.4	55	190	416	2,920	434	2,340	3,780	7,340	5,500	20	20
2	3.6	55	198	136	2,370	456	2,390	3,630	4,950	5,390	20	20
3	3.6	55	202	510	1,900	448	1,840	3,630	2,730	4,940	20	20
4	3.3	55	205	510	1,650	470	1,490	3,540	2,560	3,400	20	17
5	2.4	55	848	515	1,650	475	1,410	3,510	3,860	3,520	24	20
6	.8	55	2,460	515	1,650	480	2,200	2,900	4,920	2,440	22	20
7	4.1	55	2,570	515	1,650	275	4,630	2,560	4,590	1,170	23	20
8	9.2	54	1,980	515	1,650	99	4,600	2,250	5,050	495	24	20
9	9.2	55	1,730	526	1,650	82	4,410	2,910	5,480	510	24	20
10	3.4	57	1,670	312	1,650	71	4,080	2,570	5,770	355	24	20
11	6.5	58	1,650	123	1,650	80	3,970	2,690	6,090	270	23	20
12	7.4	59	1,170	101	1,650	1,020	3,840	2,740	5,150	48	24	20
13	7.4	59	940	97	1,650	1,710	3,600	2,730	4,340	180	24	20
14	7.4	59	847	88	1,650	1,710	3,490	2,710	4,500	327	24	20
15	7.4	59	854	89	1,650	1,700	3,760	2,700	3,480	480	24	19
16	7.4	60	854	94	1,620	4,290	3,860	2,690	2,790	1,080	23	19
17	11	63	840	82	1,420	7,760	3,900	2,670	3,050	1,260	24	19
18	15	64	847	83	1,330	7,670	4,200	2,830	4,970	500	24	19
19	49	61	854	88	1,330	7,050	4,320	2,700	5,640	363	24	17
20	65	63	868	82	1,330	6,000	4,310	2,670	5,330	236	23	17
21	60	59	868	609	1,330	3,850	4,340	2,730	5,360	116	22	17
22	60	72	863	3,200	1,530	3,000	4,420	5,170	5,820	40	22	16
23	60	105	728	1,440	1,640	2,700	4,350	9,220	6,470	44	22	16
24	66	115	526	1,740	1,440	2,700	4,350	8,660	6,460	38	22	16
25	78	109	520	1,740	1,050	2,590	4,290	7,760	6,390	35	22	16
26	76	105	520	3,040	1,050	2,310	4,220	7,760	6,470	35	22	15
27	72	113	515	4,560	987	1,910	4,140	7,810	6,340	35	22	15
28	66	107	515	3,550	563	1,490	4,100	7,760	5,830	35	22	15
29	61	129	515	2,590	- - - -	1,240	3,970	7,760	5,640	35	21	16
30	55	172	520	2,980	- - - -	1,000	3,370	7,850	5,640	35	21	15
31	55	- - - -	520	2,980	- - - -	1,570	- - - -	7,880	- - - -	27	20	- - - -
Total	940.5	2,242	28,192	33,826	43,615	66,640	110,590	137,770	153,010	32,939	696	540
Mean	30.3	74.7	909	1,091	1,558	2,150	3,686	4,444	5,100	1,063	22.5	18.0
Max	78	172	2,570	4,560	2,920	7,760	4,630	8,660	7,340	5,500	24	20
Min	0.8	54	190	82	563	71	1,410	2,250	2,560	27	20	15
Ac-ft	1,870	4,450	55,920	67,090	86,510	132,200	219,400	273,300	303,500	65,330	1,380	1,070

Cal yr 1966: Total 102,653.8 Mean 281 Max 2,570 Min 1.5 Ac-ft 203,600
 Wtr yr 1967: Total 611,000.5 Mean 1,674 Max 8,660 Min 0.8 Ac-ft 1,212,000

SAN JOAQUIN RIVER BASIN

727

11-3030. STANISLAUS RIVER AT RIPON, CALIF.

LOCATION.--Lat 37°43'47", long 121°06'34", in NW¼SE¼ sec.29, T.2 S., R.8 E., on left bank 15 ft downstream from railroad bridge, 1.1 miles southeast of Ripon, and 15 miles upstream from mouth.

DRAINAGE AREA.--1,075 sq mi.

RECORDS AVAILABLE.--October 1940 to September 1967. April to September 1940 in reports of California Department of Water Resources.

GAGE.--Digital water-stage recorder. Datum of gage is 0.72 ft above mean sea level, datum of 1929, adjustment of 1959. October 1940 to Nov. 17, 1953, graphic water-stage recorder at site 100 ft upstream at same datum. Nov. 17, 1953, to June 9, 1965, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--27 years, 1,034 cfs (748,600 acre-ft per year).

EXTREMES.--Maximum discharge during year, 7,890 cfs May 25 (gage height, 56.19 ft); minimum daily, 107 cfs Oct. 2.

1940-67: Maximum discharge, 62,500 cfs Dec. 24, 1955 (gage height, 63.25 ft); minimum, 40 cfs July 21, 1961.

Flood of Feb. 12, 1938, reached a stage of 64.4 ft from floodmarks.

REMARKS.--Records good. Flow regulated by reservoirs and powerplants above station (see REMARKS for sta. no. 3020). South San Joaquin and Oakdale Canals (see sta. nos. 3005 and 3010) divert at Goodwin Dam 34 miles upstream. Diversions for irrigation of 57,250 acres in vicinity of Oakdale area. See schematic diagram for Stanislaus River basin.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	116	144	198	615	3,210	853	1,830	4,030	7,620	5,810	337	316
2	107	143	224	594	3,000	660	2,450	4,040	7,310	5,770	342	299
3	114	142	252	375	2,610	646	2,470	3,910	5,990	5,700	331	304
4	125	141	299	489	2,100	622	2,060	3,820	4,120	5,330	313	315
5	148	141	304	583	1,850	618	1,740	3,840	3,550	4,290	307	298
6	165	147	648	590	1,810	614	1,670	3,720	4,510	4,120	319	298
7	138	152	2,220	590	1,770	612	2,640	3,240	5,230	3,200	342	302
8	135	153	2,620	590	1,760	518	4,270	2,870	5,170	2,020	342	311
9	114	153	2,030	590	1,760	372	4,520	2,610	5,400	1,460	334	269
10	132	148	1,840	590	1,750	312	4,420	3,180	5,720	1,340	347	333
11	215	146	1,770	522	1,750	248	4,370	3,030	6,000	1,140	385	368
12	184	147	1,740	324	1,740	223	4,370	3,080	6,230	961	375	374
13	124	147	1,460	276	1,740	806	4,020	3,090	5,690	765	346	391
14	114	148	1,030	249	1,750	1,620	3,750	3,100	4,980	733	356	338
15	113	150	971	233	1,740	1,720	3,630	3,060	4,960	812	320	373
16	120	154	948	221	1,740	1,770	3,820	3,030	4,300	933	316	417
17	124	158	933	215	1,720	3,670	3,920	2,980	3,580	1,410	323	404
18	115	155	917	210	1,540	6,290	4,070	2,940	3,760	1,450	308	411
19	109	152	912	201	1,430	7,000	4,650	3,030	5,090	938	270	385
20	110	155	920	198	1,410	6,670	4,590	2,940	5,660	830	303	388
21	112	159	925	212	1,400	6,130	4,470	2,890	5,580	692	342	428
22	129	159	927	823	1,390	4,720	4,730	3,050	5,600	642	303	478
23	138	159	928	2,880	1,580	3,590	4,660	4,500	5,850	550	300	467
24	140	165	872	1,660	1,700	3,140	4,570	6,690	6,380	485	305	476
25	140	174	696	2,180	1,570	3,050	4,550	7,730	6,490	441	270	480
26	142	181	660	2,000	1,210	2,920	4,450	7,390	6,460	423	244	454
27	147	183	646	2,950	1,170	2,660	4,360	7,300	6,430	377	302	440
28	149	184	632	4,360	1,130	2,250	4,280	7,370	6,400	357	284	468
29	150	188	625	3,810	-----	1,850	4,180	7,340	6,070	332	263	494
30	149	187	622	3,020	-----	1,560	4,110	7,400	5,810	359	254	515
31	147	-----	617	3,440	-----	1,380	-----	7,490	-----	385	280	-----
TOTAL	4,165	4,715	30,386	35,590	49,330	69,094	113,620	134,690	165,940	54,055	9,763	11,594
MEAN	134	157	980	1,148	1,762	2,229	3,787	4,345	5,531	1,744	315	386
MAX	215	188	2,620	4,360	3,210	7,000	4,730	7,730	7,620	5,810	385	515
MIN	107	141	198	198	1,130	223	1,670	2,610	3,550	332	244	269
AC-FT	8,260	9,350	60,270	70,590	97,840	137,000	225,400	267,200	329,100	107,200	19,360	23,000

CAL YR 1966: TOTAL 149,403

MEAN 409

MAX 2,620

MIN 74

AC-FT 296,300

WAT YR 1967: TOTAL 682,942

MEAN 1,871

MAX 7,730

MIN 107

AC-FT 1,355,000

SAN JOAQUIN RIVER BASIN

11-3035. SAN JOAQUIN RIVER NEAR VERNALIS, CALIF.
(International hydrologic decade station)

LOCATION.--Lat 37°40'34", long 121°15'55", in El Pescadero Grant, on left bank 80 ft upstream from Durham Ferry highway bridge, 2.6 miles downstream from Stanislaus River, and 3.2 miles northeast of Vernalis.

DRAINAGE AREA.--13,540 sq mi.

RECORDS AVAILABLE.--July 1922 to September 1967 (1922-23 and 1925-29, low-water records only).

GAGE.--Graphic water-stage recorder. Datum of gage is at mean sea level. July 1922 to September 1946, at various sites on or within 100 ft of Durham Ferry bridge. Prior to Apr. 1, 1931, at different datum. Apr. 1, 1931, to Sept. 30, 1959, at datum 5.06 ft above mean sea level and 8.4 ft above datum of Corps of Engineers.

AVERAGE DISCHARGE.--39 years (1924, 1929-67), 4,418 cfs (3,198,000 acre-ft per year).

EXTREMES.--Maximum discharge during year, 26,100 cfs Apr. 30 (elevation, 29.28 ft); minimum daily, 780 cfs Oct. 1.

1922-67: Maximum discharge recorded, 79,000 cfs Dec. 9, 1950 (elevation, 32.81 ft, present datum), including flow through breaks in levee; minimum, 19 cfs Aug. 10, 1961.

REMARKS.--Records good. Natural flow of stream affected by storage reservoirs, power developments, ground-water withdrawals and diversions for irrigation; low flows consist mainly of return flow from irrigated areas. Records of chemical analyses, water temperatures, and suspended-sediment loads for the water year 1967 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	780	1040	1450	3100	8070	4040	5910	24900	22500	20400	2360	1910
2	785	1040	1510	2710	7880	3750	7930	24200	23100	20800	2250	1980
3	857	1200	1620	2490	8260	3590	8830	23600	23200	21100	2340	2060
4	906	1340	1680	2400	8270	3420	8920	23200	22000	21000	2310	2100
5	940	1340	1730	2610	7930	3240	7620	22800	20300	20300	2130	2010
6	955	1350	1820	2590	7600	2790	6740	22300	20100	19400	2100	1910
7	995	1420	3150	2600	7370	2480	7490	21800	21500	18900	2130	1880
8	955	1440	5660	2560	7410	2510	10300	21200	21700	17900	2180	1870
9	1000	1440	6660	2440	7610	2350	12700	20600	20500	16900	2130	1900
10	1000	1450	7510	2390	7740	2240	13700	20200	20200	15800	2100	1890
11	945	1450	8470	2470	7770	2340	13900	20500	20600	14400	2040	1990
12	1060	1430	8170	2340	7480	3420	14000	21500	21400	13600	2080	1990
13	1150	1440	6960	2200	6830	2520	13800	21700	22200	11900	2110	1890
14	1180	1420	5860	2150	6300	3210	13900	19800	22000	10300	2090	1870
15	1220	1390	5170	2050	5880	4130	14000	18500	19800	8270	1980	1830
16	1260	1460	4900	1940	5800	5500	13000	18300	17700	6600	1930	1910
17	1300	1500	4760	1900	5740	8630	12100	18500	16200	7030	1890	1990
18	1260	1490	4630	1910	5530	12100	11500	18500	16100	7540	1850	2040
19	1220	1470	4540	1920	5300	14600	11800	18000	16800	7190	1830	2100
20	1260	1410	4470	1940	5130	15900	14100	17400	17800	6520	1870	2040
21	1280	1200	4440	1980	5110	16300	15400	16900	18600	5520	1930	1970
22	1290	1100	4420	2320	4990	15500	15800	16300	18700	4660	1940	2030
23	1320	1220	4400	3920	4990	13600	17000	16600	18300	4240	1860	2100
24	1320	1430	4400	4590	5180	10500	18400	17800	18000	3750	1860	2160
25	1190	1460	4300	4720	5010	8390	20400	19300	18400	3470	1890	2230
26	1100	1240	4200	5650	4630	7380	23700	21000	19200	3500	1860	2220
27	1100	1200	4160	4950	4260	6660	25000	21000	20200	2970	1850	2190
28	1120	1190	4100	5660	4100	6050	25200	20700	20900	2620	1930	2140
29	1140	1110	3670	6230	- - - -	5450	25800	21000	21200	2440	1950	2290
30	1120	1220	3430	5960	- - - -	4990	25900	21300	20800	2460	1910	2470
31	1130	- - - -	3400	6760	- - - -	5050	- - - -	21900	- - - -	2460	1960	- - - -
Total	34138	39890	135640	99450	178170	202630	434840	631300	600000	323940	62640	60860
Mean	1101	1330	4375	3208	6363	6536	14490	20360	20000	10450	2021	2029
Max	1320	1500	8470	6760	8270	16300	25900	24900	23200	21100	2360	2470
Min	780	1040	1450	1900	4100	2340	5910	16300	16100	2440	1830	1800
Ac-ft	67710	79120	269000	197300	353400	401900	862500	1252000	1190000	642500	124200	120700
Cal yr1966: Total	671082	Mean	1839	Max	9590	Min	323	Ac-ft	1331000			
Wtr yr1967: Total	2803498	Mean	7681	Max	25900	Min	780	Ac-ft	5561000			

SAN JOAQUIN RIVER BASIN

729

11-3060. SOUTH FORK CALAVERAS RIVER NEAR SAN ANDREAS, CALIF.

LOCATION.--Lat 38°08'40", long 120°39'50", in NW $\frac{1}{4}$ sec.4, T.3 N., R.12 E., on right bank 0.1 mile downstream from San Antonio Creek, and 3.7 miles south of San Andreas.

DRAINAGE AREA.--118 sq mi.

RECORDS AVAILABLE.--April 1950 to September 1967.

GAGE.--Digital water-stage recorder. Altitude of gage is 860 ft (from topographic map). Prior to Feb. 13, 1952, staff gage at same site and datum. Feb. 13, 1952, to May 19, 1964, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--17 years, 78.0 cfs (56,470 acre-ft per year); median of yearly mean discharges, 46 cfs (33,300 acre-ft per year).

EXTREMES.--Maximum discharge during year, 8,900 cfs Jan. 22 (gage height, 9.02 ft), from rating curve extended above 2,400 cfs; no flow Oct. 1 to Nov. 6.
1950-67: Maximum discharge, 17,600 cfs Dec. 23, 1955 (gage height, 10.29 ft), from rating curve extended above 5,700 cfs on basis of slope-area measurement of maximum flow; no flow at times in most years.

REMARKS.--Records fair. Some small diversions for irrigation above station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0	0	29	22	560	49	500	231	107	30	8.4	3.2
2	0	0	542	21	390	48	316	220	101	28	8.4	2.8
3	0	0	514	20	300	47	261	214	91	27	8.6	3.0
4	0	0	150	19	240	46	264	214	84	25	7.9	3.3
5	0	0	866	20	190	45	360	221	94	24	7.3	3.5
6	0	0	1,760	20	165	43	666	215	98	23	6.7	3.8
7	0	4.9	504	19	145	42	1,520	215	85	22	6.6	3.9
8	0	6.6	218	18	132	42	615	229	77	19	5.8	3.5
9	0	3.7	130	18	121	41	404	251	72	20	6.2	4.0
10	0	2.9	125	17	111	40	412	408	68	19	6.5	3.9
11	0	2.7	92	18	104	97	786	328	65	19	6.2	4.0
12	0	2.5	73	18	99	356	520	273	62	18	6.0	4.0
13	0	2.6	61	17	97	500	380	247	61	17	5.3	4.1
14	0	2.7	53	18	93	388	324	230	59	16	5.0	4.1
15	0	3.1	48	16	85	240	340	224	53	16	4.8	4.0
16	0	21	44	15	79	1,890	308	228	50	16	4.5	3.4
17	0	24	41	15	73	1,200	308	228	50	15	4.1	3.4
18	0	10	38	14	70	570	1,660	220	49	15	3.8	4.2
19	0	6.8	35	15	67	388	900	204	48	14	3.4	5.8
20	0	21	34	18	61	308	580	190	46	14	3.0	5.3
21	0	44	33	1,610	59	261	1,030	175	45	13	2.9	4.4
22	0	76	31	2,260	54	228	702	161	43	13	2.8	4.5
23	0	36	29	343	53	219	555	146	42	12	3.0	4.4
24	0	19	27	792	51	204	655	134	40	11	2.9	4.3
25	0	14	27	803	77	172	485	121	38	11	3.1	4.0
26	0	10	30	331	67	158	392	110	36	11	3.0	4.5
27	0	7.9	27	299	56	144	380	104	35	10	3.6	4.6
28	0	9.8	24	253	52	151	336	100	34	10	3.6	4.0
29	0	24	23	927	-----	160	284	96	32	9.7	3.4	3.6
30	0	26	23	1,080	-----	158	258	88	31	9.3	3.2	3.6
31	0	-----	21	1,020	-----	540	-----	89	-----	8.8	2.9	-----
TOTAL	0	381.2	5,652	10,076	3,651	8,775	16,501	6,114	1,796	515.8	152.9	119.1
MEAN	0	12.7	182	325	130	283	550	197	59.9	16.6	4.93	3.97
MAX	0	76	1,760	2,260	560	1,890	1,660	408	107	30	8.6	5.8
MIN	0	0	21	14	51	40	258	88	31	8.8	2.8	2.8
AC-FT	0	756	11,210	19,990	7,240	17,400	32,730	12,130	3,560	1,020	303	236

CAL YR 1966: TOTAL 14,332.90 MEAN 39.3 MAX 1,760 MIN 0 AC-FT 28,430
WAT YR 1967: TOTAL 53,734.00 MEAN 147 MAX 2,260 MIN 0 AC-FT 106,600

Peak discharge (base, 1,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-2	2215	5.27	1,900	3-31	2245	4.19	1,030
12-6	1230	6.70	3,560	4-7	0115	5.82	2,500
1-22	0100	9.02	8,900	4-10	2245	4.39	1,170
1-30	1415	5.25	1,900	4-18	0315	6.36	3,150
3-16	0945	6.17	2,920	4-21	1345	5.37	2,030

SAN JOAQUIN RIVER BASIN

11-3080. NORTH FORK CALAVERAS RIVER NEAR SAN ANDREAS, CALIF.

LOCATION.--Lat 38°13'05", long 120°41'55", in NW¼ sec.7, T.4 N., R.12 E., on right bank 0.5 mile upstream from Chile Gulch and 1.8 miles northwest of San Andreas.

DRAINAGE AREA.--85.2 sq mi.

RECORDS AVAILABLE.--March 1950 to September 1967.

GAGE.--Digital water-stage recorder. Altitude of gage is 750 ft (from topographic map). Prior to Feb. 14, 1952, staff gage at same site and datum. Feb. 14, 1952, to July 8, 1964, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--17 years, 48.0 cfs (34,750 acre-ft per year); median of yearly mean discharges, 31 cfs (22,400 acre-ft per year).

EXTREMES.--Maximum discharge during year, 3,760 cfs Jan. 22 (gage height, 10.77 ft); no flow Oct. 1-16. 1950-67: Maximum discharge, 6,200 cfs Dec. 23, 1955 (gage height, 12.52 ft), from rating curve extended above 3,900 cfs; no flow at times in most years.

REMARKS.--Records fair. Small diversions above station for irrigation.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0	1.9	18	11	392	27	302	103	41	15	5.0	.88
2	0	.61	343	11	218	27	310	93	39	14	4.4	.56
3	0	1.3	379	10	149	26	261	87	37	13	3.9	.42
4	0	1.5	72	10	112	26	218	86	34	12	4.1	2.5
5	0	1.1	452	11	90	25	350	89	43	12	3.8	2.3
6	0	3.8	1,010	11	74	24	417	86	47	12	2.9	1.8
7	0	18	296	9.9	65	24	1,270	86	38	11	1.6	1.1
8	0	14.	136	9.6	60	24	524	89	35	11	2.7	1.5
9	0	4.6	73	9.4	55	23	320	94	32	11	2.7	2.3
10	0	3.2	75	9.4	50	22	243	202	31	10	2.3	5.5
11	0	2.5	55	9.4	45	38	342	135	30	10	1.6	3.1
12	0	2.3	43	9.4	42	234	363	102	29	9.6	1.5	1.2
13	0	2.5	36	9.4	40	389	269	89	28	8.8	2.4	1.3
14	0	2.6	31	9.3	40	295	210	78	27	8.2	2.1	1.4
15	0	4.4	28	9.0	38	198	208	71	26	7.7	1.7	1.3
16	0	25	25	9.0	39	951	203	67	25	7.9	1.4	1.5
17	1.5	23	23	8.6	38	695	220	62	25	7.6	1.0	3.2
18	7.1	12	22	8.6	36	303	1,400	57	24	7.6	.95	6.8
19	8.5	11	21	8.6	33	194	720	54	24	7.4	.67	7.1
20	10	30	20	9.3	31	138	460	51	23	6.9	.50	7.5
21	13	45	19	560	30	110	850	48	22	6.7	.62	6.5
22	14	105	18	1,340	29	91	535	46	22	6.8	.71	6.6
23	14	42	18	244	29	85	450	43	21	6.2	.80	5.8
24	13	19	17	283	28	90	530	42	21	5.9	2.7	6.9
25	12	11	17	283	39	71	400	41	20	6.0	3.0	7.5
26	9.3	7.3	17	178	39	64	265	39	19	5.3	1.7	6.9
27	9.6	5.7	16	186	31	59	240	38	18	5.1	1.5	5.9
28	8.6	6.3	16	143	29	58	180	38	19	5.8	1.2	6.5
29	7.7	19	15	563	-----	98	145	38	17	5.6	.86	8.5
30	7.7	21	15	448	-----	76	120	37	16	4.8	1.5	8.3
31	4.0	-----	14	817	-----	178	-----	37	-----	5.6	1.3	-----
TOTAL	140.0	446.61	3,340	5,237.9	1,901	4,663	12,325	2,228	833	266.5	63.11	122.66
MEAN	4.52	14.9	108	169	67.9	150	411	71.9	27.8	8.60	2.04	4.09
MAX	14	105	1,010	1,340	392	951	1,400	202	47	15	5.0	8.5
MIN	0	.61	14	8.6	28	22	120	37	16	4.8	.50	.42
AC-FT	278	886	6,620	10,390	3,770	9,250	24,450	4,420	1,650	529	125	243

CAL YR 1966: TOTAL 8,713.21 MEAN 23.9 MAX 1,010 MIN 0 AC-FT 17,280
WAT YR 1967: TOTAL 31,566.78 MEAN 86.5 MAX 1,400 MIN 0 AC-FT 62,610

Peak discharge (base, 1,300 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-6	1300	9.70	2,800	3-16	2230	7.60	1,530
1-22	0315	10.77	3,760	4-7	0230	8.29	1,880
1-31	1215	7.21	1,340	4-18	-----	8.32	1,900

11-3087. NEW HOGAN RESERVOIR NEAR VALLEY SPRINGS, CALIF.

LOCATION.--Lat 38°09'00", long 120°48'45", in SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.31, T.4 N., R.11 E., in control house at New Hogan Dam on the Calaveras River, 3.0 miles south of Valley Springs.

DRAINAGE AREA.--362 sq mi.

RECORDS AVAILABLE.--December 1963 to September 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is at mean sea level (levels by Corps of Engineers).

EXTREMES.--Maximum contents during year, 241,200 acre-ft Apr. 18 (elevation, 692.53 ft); minimum, 137,200 acre-ft Nov. 14 (elevation, 659.44 ft).

1963-67: Maximum contents, 241,200 acre-ft Apr. 18, 1967 (elevation, 692.53 ft); minimum since initial season of normal operation, 9,360 acre-ft Oct. 27, 1964 (elevation, 516.81 ft).

REMARKS.--Reservoir is formed by an earth-fill dam and four earth-fill dikes. Storage began Dec. 20, 1963. Total capacity, 323,900 acre-ft between elevations 534.5 (invert of outlet valve) and 713.0 ft (top of spillway gates). Elevation of spillway crest is 679.5 ft. No dead storage. The reservoir is operated for flood control according to existing downstream channel conditions. Reservoir releases limited, insofar as possible, to amounts that will not cause flows greater than 6,000 cfs at Bellota. Records, including extremes, show contents at 2400 hours.

COOPERATION.--Records furnished by Corps of Engineers.

CAPACITY TABLE (ELEVATION, IN FEET, AND CONTENTS, IN ACRE-FT)

545	722	600	27,300
550	1,240	610	39,200
555	1,960	630	70,500
560	2,950	650	113,200
570	6,140	670	167,000
580	11,100	700	269,700
590	18,000		

CONTENTS. IN THOUSANDS OF ACRE-FEET, AT 2400 HOURS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	142.0	137.9	139.3	165.5	175.4	181.4	187.2	219.8	237.4	233.7	221.0	206.5
2	141.8	137.8	141.2	165.5	173.9	181.5	189.2	220.8	237.4	233.4	220.6	206.1
3	141.6	137.7	143.8	165.5	173.4	181.7	190.7	221.8	237.5	233.0	220.1	205.7
4	141.4	137.7	144.6	165.6	174.2	181.8	192.2	222.8	237.5	232.5	219.6	205.4
5	141.3	137.6	148.2	165.6	175.0	182.0	194.4	223.8	237.8	232.1	219.2	205.0
6	141.2	137.7	157.3	165.6	175.5	182.1	198.9	224.6	238.1	231.7	218.7	204.5
7	141.1	137.6	159.8	165.6	176.0	182.3	209.9	225.6	238.2	231.2	218.3	204.1
8	141.0	137.6	160.9	165.7	176.5	182.4	214.0	226.3	238.4	230.8	217.8	203.7
9	141.0	137.5	161.6	165.7	176.9	182.5	216.5	227.3	238.5	230.4	217.2	203.3
10	140.9	137.4	162.5	165.7	177.2	182.7	219.3	229.0	238.6	230.0	216.7	203.0
11	140.8	137.4	163.0	165.8	177.5	183.3	223.8	230.2	238.7	229.5	216.2	202.5
12	140.7	137.3	163.4	165.8	177.9	185.0	226.9	231.2	238.6	229.1	215.8	202.1
13	140.4	137.3	163.6	165.8	178.1	186.3	229.1	232.0	238.6	228.7	215.4	201.6
14	140.2	137.2	163.8	165.8	178.3	185.6	230.9	232.8	238.5	228.3	215.0	201.2
15	139.9	137.3	164.1	165.8	178.6	184.1	232.7	233.5	238.4	227.9	214.5	200.9
16	139.6	137.5	164.3	165.7	178.8	188.7	234.3	234.1	238.2	227.4	214.0	200.5
17	139.3	137.6	164.4	165.7	179.1	189.4	235.6	234.7	238.0	227.1	213.5	200.2
18	139.2	137.6	164.5	165.8	179.3	185.1	241.2	235.3	237.8	226.6	213.1	199.8
19	139.2	137.7	164.6	165.8	179.5	180.0	241.1	235.7	237.6	226.2	212.6	199.4
20	139.0	137.8	164.8	165.9	179.7	176.3	236.3	236.2	237.4	225.8	212.2	199.1
21	138.8	138.0	164.8	174.2	179.8	175.1	234.0	236.7	237.2	225.6	211.6	198.8
22	138.7	138.4	164.9	187.4	180.0	175.7	229.8	237.1	236.9	225.1	211.1	198.6
23	138.7	138.6	165.0	186.3	180.2	176.4	224.6	237.3	236.5	224.6	210.7	198.3
24	138.6	138.7	165.0	184.2	180.4	177.1	220.0	237.4	236.3	224.2	210.2	197.9
25	138.5	138.7	165.1	180.8	180.6	177.7	217.2	237.4	235.9	223.9	209.8	197.6
26	138.5	138.8	165.2	173.9	180.9	179.3	217.9	237.4	235.5	223.5	209.3	197.3
27	138.3	138.8	165.2	169.4	181.1	178.8	218.3	237.4	235.2	223.0	208.8	197.2
28	138.1	138.9	165.3	167.7	181.2	179.4	218.7	237.4	234.8	222.7	208.4	197.2
29	138.1	138.9	165.4	169.7	-----	180.0	218.9	237.4	234.4	222.3	208.0	197.2
30	138.0	139.0	165.4	172.1	-----	180.9	219.0	237.3	234.0	221.9	207.5	197.1
31	138.0	-----	165.4	175.4	-----	184.1	-----	237.4	-----	221.5	207.0	-----
(+)	659.71	660.11	669.48	672.80	674.71	675.64	686.31	691.47	690.55	687.02	682.75	679.74
(+)	-4.2	+1.0	+26.4	+10.0	+5.8	+2.9	+34.9	+18.4	-3.4	-12.5	-14.5	-9.9
(++)	133.7	51.9	22.9	27.5	32.9	68.2	74.4	183.1	199.9	306.0	297.7	210.3
Max	142.0	139.0	165.4	187.4	181.2	189.4	241.2	237.4	238.7	233.7	221.0	206.5
Min	138.0	137.2	139.3	165.5	173.4	175.1	187.2	219.8	234.0	221.5	207.0	197.1
Calendar year 1966..... † -17.3												
Water year 1966-67..... † +54.9												
Max 200.5												
Min 137.2												

† Elevation, in feet, at end of month.

‡ Change in contents, in thousands of acre-feet.

++ Evaporation in acre-feet.

SAN JOAQUIN RIVER BASIN

11-3089. CALAVERAS RIVER BELOW NEW HOGAN DAM, NEAR VALLEY SPRINGS, CALIF.

LOCATION.--Lat 38°08'53", long 120°49'26", in NE $\frac{1}{4}$ sec.1, T.3 N., R.10 E., on right bank at county road bridge, 0.5 mile upstream from Cosgrove Creek, 0.8 mile downstream from New Hogan Dam, and 3.0 miles south of Valley Springs.

DRAINAGE AREA.--363 sq mi.

RECORDS AVAILABLE.--January 1961 to September 1967. Published as "below Hogan Dam" 1961-63 and as "below New Hogan Dam" 1964.

GAGE.--Digital water-stage recorder and concrete control. Datum of gage is 519.8 ft above mean sea level (levels by Corps of Engineers). Auxiliary staff gage 300 ft downstream at different datum used May 1, 1962, to Jan. 26, 1963. Prior to Aug. 2, 1967, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--6 years, 223 cfs (161,400 acre-ft per year), adjusted for change in contents and evaporation from New Hogan Reservoir.

EXTREMES.--Maximum discharge during year, 4,770 cfs Apr. 20 (gage height, 5.68 ft); minimum daily, 1.4 cfs Sept. 30.

1961-67: Maximum discharge, 7,020 cfs Feb. 1, 1963 (gage height, 6.76 ft); no flow for many days in most years.

REMARKS.--Records good. Flow regulated by New Hogan Reservoir (see sta. no. 3087). Some seepage of North Fork Stanislaus River water enters basin from diversion canals and reservoirs, normally not over 1.5 cfs. Small diversions above station for irrigation.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	92	29	17	27	1320	18	8.1	364	144	196	190	190
2	92	29	13	27	1300	9.6	3.6	13	123	196	211	177
3	90	29	13	27	989	9.6	2.8	18	126	196	226	147
4	69	29	13	27	37	9.6	2.8	18	126	196	216	140
5	35	30	19	27	43	9.6	2.3	18	108	196	200	178
6	27	30	26	27	43	9.6	9.6	18	100	196	200	199
7	20	28	13	27	43	10	17	18	80	196	212	182
8	17	25	13	27	43	10	4.9	13	51	196	228	174
9	17	26	17	25	43	10	2.8	19	51	196	228	174
10	17	26	17	26	43	10	6.5	19	51	209	228	174
11	17	25	17	31	43	11	13	19	67	217	214	174
12	13	27	17	36	45	13	4.7	19	115	200	195	174
13	95	27	17	36	45	899	2.8	28	129	200	194	171
14	130	27	16	36	38	1710	2.3	49	145	193	192	165
15	130	27	16	36	29	1710	2.9	62	180	172	200	153
16	130	28	16	36	29	2310	2.2	75	164	172	216	153
17	97	30	16	36	29	3260	410	75	150	173	224	153
18	47	29	16	36	29	3960	1770	75	147	174	224	148
19	28	27	23	36	28	3930	3080	75	147	174	224	143
20	29	27	29	36	28	2850	4600	75	147	167	209	127
21	22	27	29	61	28	1230	4720	75	159	159	211	111
22	16	23	29	65	29	199	4700	94	203	168	224	112
23	17	16	28	1520	29	19	4700	129	207	177	210	112
24	18	16	28	3020	29	19	4540	158	185	177	209	112
25	18	16	28	3720	29	19	3130	158	185	177	208	112
26	28	16	28	4650	29	19	1010	158	193	177	199	112
27	79	16	28	3400	29	13	1010	158	210	169	185	64
28	70	13	28	1320	29	1.8	908	158	224	168	203	1.9
29	28	17	28	1790	-----	1.8	720	158	212	171	225	1.5
30	29	17	28	1310	-----	2.7	720	158	199	177	226	1.4
31	29	-----	28	1320	-----	12	-----	158	-----	177	216	-----
Total	1551	738	679	24,398	5,473	22,295.3	36,106.3	2,642	4,328	5,712	6,547	4,035.8
Mean	50.0	24.6	21.9	784	196	719	1,204	852	144	184	211	134
Max	130	30	29	4,650	1,320	3,960	4,720	364	224	217	228	199
Min	16	16	16	25	28	1.8	2.2	18	51	159	185	1.4
Ac-ft	3,080	1,460	1,350	48,190	10,870	44,220	71,620	5,240	8,580	11,330	12,990	8,000
Mean †	3.53	50.1	45.5	951	306	777	1,303	414	121	30.7	23.9	3.41
Ac-ft†	217	2,980	27,980	58,460	17,000	47,800	107,300	25,470	7,180	1,890	1,470	203

Cal yr 1966: Total 39,872.0 Mean 109 Max 1,450 Min 16 Ac-ft 79,080 Mean † 107 Ac-ft † 77,420
Wtr yr 1967: Total 114,410.4 Mean 313 Max 4,720 Min 1.4 Ac-ft 226,900 Mean † 412 Ac-ft † 298,000

† Adjusted for change in contents and evaporation in New Hogan Dam.

SAN JOAQUIN RIVER BASIN

733

11-3090. COSGROVE CREEK NEAR VALLEY SPRINGS, CALIF.

LOCATION.--Lat 38°08'10", long 120°50'05", in SE $\frac{1}{4}$ sec.35, T.4 N., R.10 E., on right bank 0.4 mile upstream from mouth and 2.7 miles south of Valley Springs.

DRAINAGE AREA.--21.1 sq mi.

RECORDS AVAILABLE.--October 1929 to September 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is 547.8 ft above mean sea level, datum of 1929. Prior to Mar. 17, 1930, staff gage at site a quarter of a mile downstream at different datum.

AVERAGE DISCHARGE.--38 years, 7.44 cfs (5,390 acre-ft per year); median of yearly mean discharges, 5.4 cfs (3,900 acre-ft per year).

EXTREMES.--Maximum discharge during year, 1,780 cfs Jan. 22 (gage height, 7.01 ft); no flow for several months. 1929-67: Maximum discharge, 3,240 cfs Dec. 23, 1955 (gage height, 8.96 ft), from rating curve extended above 1,400 cfs on basis of slope-area measurement of maximum flow; no flow for several months in each year.

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

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	0.10	0.60	71	2.4	70	8.8	1.4			
2		0	.10	.60	35	2.2	21	8.4	1.9			
3		0	.80	.50	21	2.2	13	7.2	1.9			
4		0	.60	.50	16	2.2	16	6.6	1.4			
5		0	51	.50	13	2.0	47	5.9	1.9			
6		0	258	.50	11	1.8	191	5.4	4.6			
7		0	49	.50	8.8	1.6	335	4.9	2.6			
8		0	24	.50	7.5	1.6	56	4.4	1.8			
9		0	15	.50	6.9	1.6	23	4.4	1.2			
10		0	19	.40	6.4	1.4	120	11	.90			
11		0	8.0	.40	5.6	10	208	5.9	.80			
12		0	5.4	.40	5.4	92	46	4.9	.80			
13		0	4.0	.40	5.2	83	24	4.0	.50			
14		0	3.2	.40	4.6	57	13	3.6	.50			
15		0	2.9	.30	4.2	19	32	3.2	.40			
16		0	2.2	.30	4.0	155	26	2.8	.30			
17		0	1.9	.30	3.8	72	74	2.4	.30			
18		0	1.6	.30	3.6	26	331	2.0	.30			
19		0	1.4	.30	3.6	16	158	1.9	.30			
20		.10	1.3	.50	3.2	11	52	1.9	.20			
21		0	1.2	351	3.0	8.8	147	1.6	.20			
22		.10	1.0	336	2.6	6.9	90	1.3	.10			
23		0	.90	34	2.6	6.6	51	1.2	.10			
24		0	.90	165	2.6	5.6	54	1.1	.10			
25		0	.80	59	3.8	4.9	38	1.1	.10			
26		0	.80	42	3.8	4.4	24	1.0	.10			
27		0	.80	43	2.8	4.2	20	1.0	.10			
28		0	.80	62	2.4	4.2	17	1.0	.10			
29		0	.70	224	---	4.6	13	1.0	.10			
30		0	.70	253	---	8.4	11	.90	0			
31		---	.60	454	---	125	---	1.0	---			---
Total	0	0.20	458.60	2036.70	263.4	743.6	2331	111.8	25.00	0	0	0
Mean	0	0.007	14.8	65.7	9.41	24.0	77.7	3.61	0.83	0	0	0
Max	0	.10	258	454	71	155	335	11	4.6	0	0	0
Min	0	0	0.10	0.30	2.4	1.4	11	0.90	0	0	0	0
Ac-ft	0	0.4	910	4040	522	1470	4620	222	50	0	0	0

Cal yr 1966: Total 1,260.50 Mean 3.45 Max 258 Min 0 Ac-ft 2,500
Wtr yr 1967: Total 5,970.30 Mean 16.4 Max 454 Min 0 Ac-ft 11,840

Peak discharge (base, 500 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-06	0930	5.92	1,090	4-07	0200	5.70	965
1-22	0030	7.01	1,780	4-10	2300	5.70	965
1-29	0900	5.17	685	4-17	2400	5.21	705
1-31	0630	6.93	1,720				

SAN JOAQUIN RIVER BASIN

11-3120. BEAR CREEK NEAR LOCKEFORD, CALIF.

LOCATION.--Lat 38°09'15", long 121°08'15", in NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec.31, T.4 N., R.8 E., on right bank 15 ft downstream from county road bridge and 0.8 mile southeast of Lockeford.

DRAINAGE AREA.--47.6 sq mi.

RECORDS AVAILABLE.--October 1930 to September 1967. Monthly discharge only for some periods, published in WSP 1315-A. October 1926 to November 1930 at site 3 miles downstream; records not equivalent.

GAGE.--Digital water-stage recorder and low water concrete control. Datum of gage is 80.68 ft above mean sea level (levels by Corps of Engineers). Prior to Aug. 2, 1967, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--37 years, 11.4 cfs (8,250 acre-ft per year); median of yearly mean discharges, 7.6 cfs (5,500 acre-ft per year).

EXTREMES.--Maximum discharge during year, 1,500 cfs Jan. 22 (gage height, 14.69 ft); no flow for many days. 1930-67: Maximum discharge, 2,930 cfs Apr. 3, 1958 (gage height, 15.13 ft); no flow for several months in most years.

REMARKS.--Records fair. No storage or diversion above station. Occasionally water is released from East Bay Municipal Utility District aqueduct into Bear Creek above station.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.90	0.40	0.40	0	265	2.5	105	9.2	1.0	0.70	0.70	0.90
2	1.1	.40	10	0	61	2.2	31	8.0	.10	.70	.60	1.0
3	.70	.10	26	0	39	2.1	17	7.0	0	.60	1.1	1.2
4	.30	.10	17	0	29	1.7	12	5.9	.20	1.2	1.0	1.1
5	.30	.10	163	0	22	1.3	13	4.8	.50	1.9	1.1	2.6
6	.20	1.9	554	0	17	1.0	32	4.0	.10	1.7	.30	1.6
7	.50	19	123	0	14	.90	381	3.2	.10	1.0	.70	.90
8	1.1	1.0	30	0	13	.80	183	2.5	.20	1.1	.10	1.2
9	1.1	.3	14	0	11	.60	46	2.5	.20	.30	.20	.50
10	.20	.2	18	0	10	.60	29	2.5	2.1	1.0	.30	.60
11	1.1	.10	13	0	9.2	4.8	385	4.4	.90	1.0	.40	1.0
12	1.1	.10	7.2	.10	8.2	8.8	81	3.4	0	.50	.30	1.2
13	.90	.10	4.6	0	7.5	17	32	2.2	0	.20	2.0	1.4
14	.90	0	3.2	0	6.6	41	22	1.9	0	1.7	1.3	2.6
15	.60	.10	2.4	0	5.5	20	17	1.3	0	2.1	.80	2.3
16	.10	6.1	1.8	0	5.0	230	15	2.2	0	3.6	.90	1.4
17	.10	.60	1.2	0	4.6	218	13	2.5	.20	3.4	1.1	1.6
18	.10	.30	.90	0	4.2	38	30	1.0	.80	1.8	.80	.70
19	.60	1.4	.70	0	4.0	21	214	.10	.40	.40	.50	1.2
20	.40	14	.50	0	3.4	14	55	.10	.10	1.1	.30	1.4
21	.10	3.4	.40	427	3.0	12	95	1.0	.40	1.9	.40	1.4
22	.10	1.7	.20	1020	2.5	9.4	359	.90	.40	2.4	.70	1.6
23	.10	.90	.10	90	2.4	8.2	86	.40	.40	1.8	.70	3.3
24	.10	.40	.10	265	2.5	7.5	106	.40	1.0	1.6	.70	3.0
25	.30	.20	.10	213	4.4	6.3	55	.10	1.3	1.9	.90	1.9
26	.60	.10	.10	50	5.2	5.2	32	.20	1.4	1.2	1.7	2.0
27	1.8	.10	.10	41	4.2	4.6	20	.50	.40	1.2	1.4	1.1
28	1.8	3.1	.10	49	3.2	4.2	16	.50	.50	2.4	1.2	1.6
29	.70	1.7	0	385	---	3.8	14	.20	.10	.40	1.0	1.3
30	.90	.50	0	473	---	5.2	11	.10	.20	1.9	.30	1.0
31	.30	---	0	892	---	4.6	---	.20	---	1.2	.40	---
Total	19.10	58.40	992.10	3,905.10	566.6	738.70	2,507	73.20	13.00	43.90	23.90	44.60
Mean	0.62	1.95	32.0	126	20.2	23.8	83.6	2.36	.43	1.42	0.77	1.49
Max	1.8	19	554	1,020	265	230	385	9.2	2.1	3.6	2.0	3.3
Min	0.10	0	0	0	2.4	.60	11	.10	0	.20	0.10	0.50
Ac-ft	33	116	1,970	7,750	1,120	1,470	4,970	145	26	87	47	88

Cal yr 1966: Total 2,427.20 Mean 6.65 Max 554 Min 0 Ac-ft 4,810
 Wtr yr 1967: Total 8,985.60 Mean 24.6 Max 1,020 Min 0 Ac-ft 17,820

Peak discharge (base, 220 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-6	1530	12.68	1,010	3-16	2200	10.18	572
1-22	0330	14.69	1,500	4-7	1500	9.49	474
1-24	1900	10.24	581	4-11	1200	10.11	562
1-29	1330	10.50	620	4-19	1130	8.56	356
1-31	1000	12.53	976	4-22	0500	10.08	559

735

LOCATION.--Lat 37°47'45", long 121°35'05", in SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.31, T.1 S., R.4 E., at Tracy pumping plant at intake to canal, 6 miles southeast of Byron, and 10 miles northwest of Tracy.

GAGE.--Graphic water-stage recorder on forebay, pressure gages on pump discharge lines, and operating time of pumps. Datum of gage is at mean sea level (levels by Bureau of Reclamation).

EXTREMES.--1951-67: Maximum daily discharge, 4,934 cfs July 13, 1961; no flow for many days in most years.

REMARKS.--Discharge computed from records of operation of pumps. Water is diverted from Sacramento-San Joaquin Delta by way of Old River and a dredged channel to the Tracy Pumping Plant where it is lifted 200 ft into canal. Water, less intermediate diversions, flows into Mendota Pool on San Joaquin River to replace water diverted at Friant Dam. The canal is a part of the Central Valley project. Records of chemical analyses, water temperatures, and suspended-sediment loads near this gaging station for the water year 1967 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2022	1028	538	176	324	1203	1732	1086	1806	1295	4174	2753
2	2050	1158	539	176	215	1340	1731	1159	1699	1358	4245	2518
3	2004	1067	613	961	178	1768	1688	1196	1756	1379	4475	2514
4	1773	991	611	858	178	2001	1173	1197	2485	1378	4471	2520
5	1881	963	358	865	177	2003	1549	1197	1688	1380	4302	2526
6	2027	1030	251	864	177	2127	1486	1256	1447	1363	4552	2520
7	2025	1028	215	865	213	2269	1274	1277	1615	1363	4433	2529
8	2019	865	250	865	213	2203	1345	1280	1691	1286	4448	2527
9	2020	862	213	790	213	2381	1277	1421	1728	1286	4447	2357
10	2022	865	213	788	215	2526	1216	1354	1808	1285	4411	2261
11	1923	866	213	866	215	2260	1146	1425	2488	1281	4435	2287
12	1917	867	213	867	611	2170	1425	1431	1814	1285	4428	2859
13	1874	867	249	865	614	1679	975	1741	1776	2919	4465	2868
14	1903	932	322	864	685	1266	722	1738	2012	3143	4283	2798
15	1905	1044	357	863	865	1332	723	1737	2025	3083	4159	2833
16	1908	1180	356	862	931	1207	652	1836	2012	2843	4165	2851
17	1907	1098	681	922	994	1204	866	1974	2108	2783	4159	2740
18	1908	926	680	924	995	1346	867	2541	2896	2545	4213	2200
19	1908	928	677	1024	998	1348	871	2543	2115	2109	4375	2123
20	1912	964	675	1029	996	1288	870	2548	2207	2026	4350	1940
21	1912	896	599	971	1095	1860	871	2555	2218	2805	4349	2032
22	1835	859	462	873	1163	2233	944	2614	2372	3333	4281	2096
23	1882	862	68	581	1163	2550	1525	2613	2297	3330	4150	2206
24	1720	864	69	505	1165	2570	946	2565	2259	4026	4067	2277
25	1426	862	69	324	1165	2600	1196	2049	2845	4034	3902	2210
26	1261	864	70	360	1163	2600	1179	1817	2257	4027	3644	2533
27	1227	865	716	650	1160	2568	1112	2040	2253	4058	3624	2779
28	1227	866	715	760	1095	2032	1042	2283	2215	4051	3630	2850
29	1225	682	826	761	- - - -	2062	947	2102	2124	4153	3553	2851
30	1239	573	867	471	- - - -	2138	1060	2204	1622	4166	3332	2812
31	1191	- - - -	464	325	- - - -	1941	- - - -	1870	- - - -	4169	3369	- - - -
Total	55053	27722	13149	22775	19176	60080	34410	56654	61638	79552	128891	75170
Mean	1776	924	424	735	685	1938	1147	1828	2055	2566	4158	2506
Max	2050	1180	867	1029	1165	2500	1732	2618	2396	4169	4552	2868
Min	1191	578	68	176	177	1203	652	1086	1447	1281	3332	1940
Ac-ft	109298	54986	26081	45174	38035	119167	68164	112372	122257	157789	255652	149098
Cal yr 1966: Total	831901		Mean 2.279		Max 4.327	Min 0	Ac-ft 1649866					
Wtr yr 1967: Total	634270		Mean 1.734		Max 4.552	Min 68	Ac-ft 1258073					

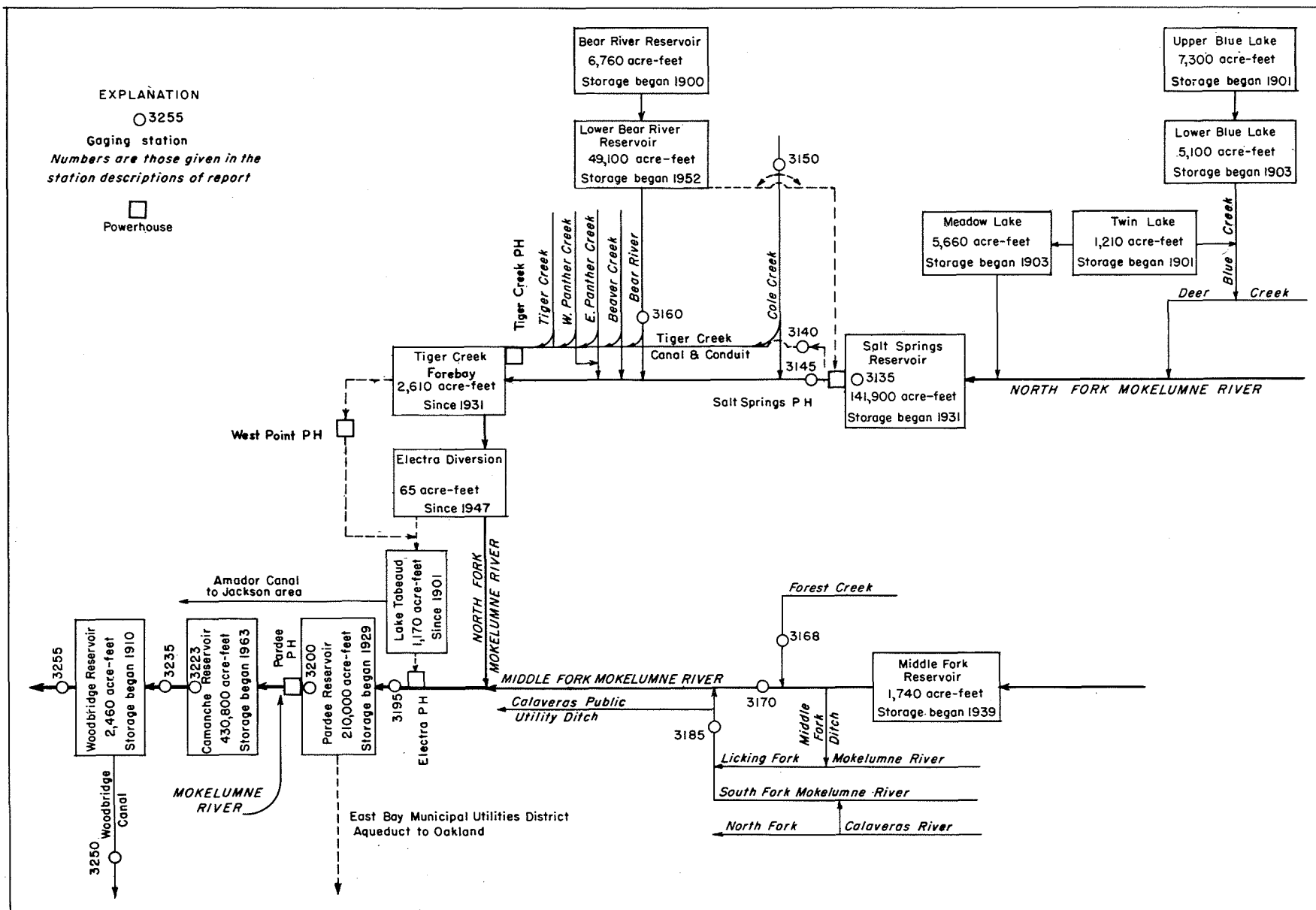


Figure 6.-- Schematic diagram showing diversions and storage in Mokelumne River basin.

11-3135. SALT SPRINGS RESERVOIR NEAR WEST POINT, CALIF.

LOCATION.--Lat 38°30'00", long 120°12'55", in SE¼ sec.33, T.8 N., R.16 E., at right end of Salt Springs Dam on North Fork Mokelumne River, 2 miles upstream from Cole Creek, and 18 miles northeast of West Point.

DRAINAGE AREA.169 sq mi.

RECORDS AVAILABLE.--March 1931 to September 1967. Prior to October 1964, records published as usable contents.

GAGE.--Staff gage read once daily. Datum of gage is at mean sea level (levels by Pacific Gas and Electric Co.).

EXTREMES.--Maximum contents observed during year, 141,900 acre-ft July 9-19 (elevation, 3,958.0 ft); minimum, 2,200 acre-ft Feb. 2 (elevation, 3,710.0 ft).

1931-67: Maximum contents observed, 141,900 acre-ft for several days in June or July each year 1948-54, 1956-58, 1960, 1962-63, 1965, 1967 (elevation, 3,958.0 ft); no contents at times in 1932-33, 1945, 1962.

REMARKS.--Reservoir is formed by concrete-faced, rock-fill dam, completed in 1931; storage began in March 1931. Capacity, 141,900 acre-ft between elevations 3,667.75 (outlet drain) and 3,958.0 ft (top of radial gates) above mean sea level. Storage of 1,860 acre-ft is available for release to river only. Water is released through powerhouse just below dam and discharged into Tiger Creek powerhouse conduit (see sta. no. 3140). Figures given herein represent total contents. See schematic diagram of Mokelumne River basin.

COOPERATION.--Record of contents furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project.

CAPACITY TABLE (ELEVATION, IN FEET, AND CONTENTS, IN ACRE-Feet)

3,667.75	45	3,740.0	7,320
3,700.0	1,250	3,750.0	9,800
3,705.0	1,680	3,760.0	12,700
3,710.0	2,200	3,780.0	19,600
3,715.0	2,810	3,800.0	28,000
3,720.0	3,520	3,850.0	54,900
3,725.0	4,320	3,900.0	90,800
3,730.0	5,230	3,958.0	141,900
3,735.0	6,230		

Contents, in thousands of acre-feet, at 1700 hours, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	63.4	41.2	24.7	17.0	3.37	16.2	39.6	33.3	128.8	140.7	137.6	122.5
2	62.4	40.6	24.9	16.5	2.20	16.1	39.3	33.0	129.7	140.4	137.4	121.8
3	61.6	39.9	25.6	16.3	2.43	16.0	39.0	33.0	130.2	140.9	137.0	121.2
4	60.9	39.3	25.5	15.8	2.57	15.9	38.8	33.3	131.9	140.2	136.6	120.3
5	60.3	38.2	26.1	15.4	2.81	15.7	38.8	33.4	134.1	140.7	136.1	119.4
6	59.7	37.1	28.7	15.0	3.99	15.6	38.5	33.7	134.3	141.7	136.3	119.0
7	59.0	36.1	30.5	14.6	4.82	15.5	38.6	34.4	135.0	141.1	135.7	118.4
8	58.0	35.5	30.7	14.1	5.96	15.4	38.4	36.4	135.8	141.4	135.0	117.8
9	57.1	34.9	30.5	13.7	7.10	15.2	38.2	39.3	136.2	141.9	134.4	116.9
10	55.8	34.2	30.1	13.3	8.64	15.1	38.1	41.4	136.5	141.9	133.9	116.0
11	55.2	33.1	29.8	12.8	9.93	15.0	38.0	42.6	136.6	141.9	133.2	115.3
12	54.5	32.0	29.3	12.4	11.2	15.0	37.9	43.2	136.5	141.9	132.4	114.7
13	53.9	31.0	28.8	12.0	12.1	14.9	37.7	43.6	136.3	141.9	131.4	114.3
14	53.3	30.0	28.2	11.8	12.9	14.8	37.7	44.2	136.3	141.9	130.6	113.7
15	52.2	29.4	27.8	11.6	13.7	14.8	37.6	45.5	136.7	141.9	130.1	113.2
16	51.2	29.1	27.6	11.2	13.8	17.7	37.4	48.2	137.3	141.9	129.7	113.4
17	50.3	28.8	26.9	10.8	15.1	24.1	37.2	52.1	138.3	141.9	129.1	112.8
18	49.7	28.3	26.3	10.3	15.8	27.1	37.0	57.1	137.4	141.9	128.8	112.2
19	49.1	27.4	25.9	9.93	16.3	28.9	36.7	61.3	136.2	141.9	128.1	111.7
20	48.4	26.9	25.6	9.53	16.8	30.1	36.4	65.9	136.2	141.6	127.3	111.5
21	47.9	26.4	24.7	9.53	17.2	31.3	36.2	72.2	137.6	141.4	126.6	111.1
22	47.0	26.2	24.3	9.61	17.1	32.4	36.0	79.6	138.3	141.0	126.4	110.6
23	46.1	25.7	23.5	9.40	17.0	33.5	35.7	87.1	139.2	140.5	125.9	110.2
24	45.1	25.3	22.7	9.12	16.9	34.6	35.4	93.8	140.4	140.0	125.6	109.7
25	44.5	24.8	22.0	8.46	16.7	35.4	35.2	100.6	140.5	139.8	125.4	109.2
26	43.9	23.8	21.2	7.76	16.6	36.0	34.8	106.1	140.5	139.6	125.3	108.7
27	43.3	23.0	20.3	8.10	16.5	36.6	34.6	112.1	140.3	139.6	124.5	108.2
28	42.8	22.4	19.5	8.37	16.3	37.2	34.3	116.9	140.5	139.6	124.0	107.7
29	42.7	24.9	18.6	8.64	-----	38.5	33.9	120.6	140.5	139.1	123.6	107.0
30	42.7	25.2	17.8	8.22	-----	39.1	33.7	121.9	140.4	138.5	123.2	106.5
31	41.8	-----	17.4	6.55	-----	39.4	-----	127.4	-----	138.0	122.7	-----
(+)	3,827.7	3,793.6	3,774.0	3,736.5	3,771.0	3,823.1	3,812.0	3,942.6	3,956.5	3,954.0	3,937.5	3,919.0
(#)	-22,600	-16,600	-7,800	-10,850	+9,750	+23,100	-5,700	+93,700	+13,000	-2,400	-15,300	-16,200
Max	63.4	41.2	30.7	17.0	17.2	39.4	39.6	127.4	140.5	141.9	137.6	122.5
Min	41.8	22.4	17.4	6.55	2.20	14.8	33.7	33.0	128.8	138.0	122.7	106.5

Cal yr 1966..... †-9,000

Wat yr 1967..... †+42,100

† Elevation, in feet, at end of month.

Change in contents, in acre-feet.

SAN JOAQUIN RIVER BASIN

11-3140. TIGER CREEK POWERHOUSE CONDUIT BELOW SALT SPRINGS DAM, CALIF.

LOCATION.--Lat 38°29'47", long 120°13'04", in SW $\frac{1}{4}$ sec.33, T.8 N., R.16 E., on left bank 1,000 ft downstream from Salt Springs Dam and powerhouse.

RECORDS AVAILABLE.--June 1931 to September 1967.

GAGE.--Digital water-stage recorder and concrete control. Altitude of gage is 3,620 ft (from topographic map). Auxiliary staff gages in stilling wells upstream and downstream from control. Prior to Nov. 16, 1966, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--36 years, 326 cfs (236,000 acre-ft per year).

EXTREMES.--1931-67: Maximum daily discharge, 577 cfs June 22, 1945; no flow at times in each year except 1957, 1962, 1965, 1967.

REMARKS.--Records excellent. Conduit conveys water of North Fork Mokelumne River from tailrace of Salt Springs powerhouse to forebay of Tiger Creek powerhouse. Since December 1952, records include Bear River diversion to Salt Springs powerhouse. See schematic diagram of Mokelumne River basin.

COOPERATION.--Gage-height record and nine discharge measurements furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	544	548	513	541	366	510	399	449	552	534	498	552
2	539	549	496	540	227	514	399	449	552	532	498	547
3	536	549	498	540	227	518	399	448	550	534	498	545
4	538	547	515	540	214	518	414	449	549	534	499	544
5	516	549	477	540	203	517	432	449	549	535	85	540
6	535	547	477	540	203	520	454	449	549	465	154	534
7	533	547	480	542	203	523	461	450	549	535	546	524
8	528	549	506	543	203	502	460	116	549	533	551	512
9	523	547	530	543	203	522	460	8.1	548	531	551	509
10	523	545	518	542	203	515	460	7.8	549	531	551	506
11	519	543	528	542	197	508	460	7.8	550	530	550	500
12	522	547	528	541	193	503	460	142	548	531	551	496
13	514	547	528	538	193	503	460	545	547	531	551	490
14	515	549	528	542	192	503	455	538	547	531	550	491
15	508	550	530	540	188	500	450	545	547	531	552	484
16	505	523	532	540	200	465	450	549	548	531	554	163
17	516	521	533	523	229	458	449	551	545	529	554	538
18	516	537	528	538	229	456	449	552	537	531	556	549
19	517	533	529	447	228	459	445	550	536	530	562	551
20	513	524	535	392	229	458	450	549	535	530	561	546
21	500	522	541	507	387	459	449	550	536	519	560	540
22	484	537	542	517	512	458	447	553	538	520	559	543
23	480	534	541	531	510	453	448	552	538	520	556	538
24	511	535	542	522	509	455	449	552	537	514	556	532
25	517	535	537	503	510	453	449	552	536	507	556	532
26	515	536	535	496	509	440	449	550	535	503	559	531
27	313	541	542	504	509	436	450	550	263	505	558	536
28	325	537	543	505	510	418	450	551	8.0	506	562	539
29	2.2	523	543	505	-----	403	450	552	310	506	564	529
30	154	524	540	488	-----	402	449	551	534	505	558	529
31	538	-----	540	447	-----	400	-----	551	-----	499	552	-----
TOTAL	14,799.2	16,175	16,255	16,079	8,286	14,749	13,356	13,867.7	15,271.0	16,173	16,112	15,470
MEAN	477	539	524	519	296	476	445	447	509	522	520	516
MAX	544	550	543	543	512	523	461	553	552	535	564	552
MIN	2.2	521	477	392	188	400	399	7.8	8.0	465	85	163
AC-FT	29,350	32,080	32,240	31,890	16,440	29,250	26,490	27,510	30,290	32,080	31,960	30,680

CAL YR 1966: TOTAL 152,154.80

MEAN 417

MAX 558

MIN 0

AC-FT 301,800

WAT YR 1967: TOTAL 176,592.9

MEAN 484

MAX 564

MIN 2.2

AC-FT 350,300

11-3145. NORTH FORK MOKELUMNE RIVER BELOW SALT SPRINGS DAM, CALIF.

LOCATION.--Lat 38°29'37", long 120°13'12", in NE¼NW¼ sec.4, T.7 N., R.16 E., on left bank 0.3 mile downstream from Salt Springs Dam and 1.3 miles upstream from Cole Creek.

DRAINAGE AREA.--170 sq mi.

RECORDS AVAILABLE.--September 1926 to September 1967. Monthly discharge only for some periods, published in WSP 1315-A. Published as "above Moore Creek" 1926-30.

GAGE.--Digital water-stage recorder. Altitude of gage is 3,590 ft (from topographic map). Prior to Sept. 12, 1928, graphic water-stage recorder at site 100 ft upstream and Sept. 12, 1928, to Sept. 23, 1940, graphic water-stage recorder at present site, at datum 2.0 ft higher. Sept. 24, 1940 to Sept. 30, 1964, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--41 years, 462 cfs (334,500 acre-ft per year), combined flow of North Fork Mokelumne River and Tiger Creek powerhouse conduit minus Bear River-Cole Creek diversion.

EXTREMES.--Maximum discharge during year, 5,500 cfs June 18 (gage height, 11.20 ft); minimum daily, 4.4 cfs Feb. 26.
1926-67: Maximum discharge, 16,000 cfs Nov. 21, 1950 (gage height, 17.20 ft), from rating curve extended above 3,900 cfs on basis of computations of flow over dam and discharge through powerhouse; minimum daily, 0.3 cfs Mar. 31, Apr. 1, 1931.

REMARKS.--Records good. Flow regulated by Salt Springs Reservoir since 1931 (see sta. no. 3135). Diversion from Bear River and Cole Creek to Salt Springs powerhouse averaged 184 cfs during 1967 water year. Diversion above station through Tiger Creek powerhouse conduit (see sta. no. 3140). See schematic diagram of Mokelumne River basin.

COOPERATION.--Gage-height record and 11 discharge measurements furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	10	9.6	5.9	5.0	1,510	5.4	259	197	373	3,510	121	80
2	10	5.6	9.8	5.1	443	5.6	259	196	375	3,190	120	83
3	10	5.6	8.9	5.1	358	5.7	258	194	378	3,170	117	89
4	10	5.4	7.3	5.1	175	5.4	246	198	438	2,880	117	90
5	10	5.4	14	5.4	31	5.1	230	200	940	1,890	39	93
6	9.9	5.3	18	5.6	31	5.7	212	203	1,160	2,080	33	100
7	9.7	5.3	8.4	6.1	31	5.8	206	208	1,430	2,100	69	110
8	9.7	5.3	6.0	6.1	30	5.5	206	253	1,840	1,300	65	122
9	9.4	5.3	5.1	6.1	31	6.0	204	630	2,120	1,500	66	122
10	9.3	5.3	5.4	6.1	31	6.8	204	635	2,300	1,240	66	127
11	9.8	5.8	4.9	6.0	37	10	204	644	2,340	1,050	64	142
12	10	5.6	4.7	5.7	42	9.9	203	525	2,290	1,120	63	148
13	9.7	5.6	5.1	5.7	42	9.2	202	161	2,200	1,450	63	149
14	9.3	6.1	4.9	5.7	43	8.5	207	171	2,200	1,050	63	155
15	9.2	6.0	5.0	5.7	48	8.9	211	166	2,440	1,040	70	163
16	9.2	6.0	5.1	5.7	36	20	211	178	2,850	1,110	78	48
17	9.2	5.7	4.9	5.5	4.9	12	210	190	4,110	624	78	112
18	9.2	5.7	4.9	5.4	5.4	7.8	211	210	4,660	636	71	97
19	9.1	5.4	4.8	5.3	5.6	6.3	175	225	3,580	526	58	96
20	9.2	6.4	141	6.2	4.9	5.6	209	244	2,630	445	58	101
21	8.9	6.1	214	13	4.6	5.2	208	261	3,100	446	58	108
22	8.8	5.7	229	14	4.6	5.7	201	276	3,160	442	59	109
23	8.9	5.7	245	8.4	4.6	6.9	207	290	2,680	436	69	115
24	9.2	5.7	246	8.0	4.5	7.7	207	309	2,460	312	75	121
25	9.2	5.7	244	7.4	4.6	7.0	194	322	3,840	254	69	121
26	9.7	5.7	249	8.5	4.4	6.4	159	335	3,780	136	67	121
27	9.7	5.4	252	9.5	4.6	5.8	202	345	3,630	72	70	117
28	9.2	5.7	252	240	5.6	7.8	201	352	4,010	70	72	114
29	12	5.8	252	608	-----	7.7	199	359	3,910	71	74	111
30	11	5.7	175	1,040	-----	153	198	365	3,520	96	77	102
31	10	-----	5.1	1,330	-----	260	-----	370	-----	123	79	-----
TOTAL	298.5	173.6	2,637.2	3,399.4	2,977.3	628.4	6,303	9,212	74,744	34,369	2,248	3,366
MEAN	9.63	5.79	85.1	110	106	20.3	210	297	2,491	1,109	72.5	112
MAX	12	9.6	252	1,330	1,510	260	259	644	4,660	3,510	121	163
MIN	8.8	5.3	4.7	5.0	4.4	5.1	159	161	373	70	33	48
AC-FT	592	344	5,230	6,740	5,910	1,250	12,500	18,270	148,300	68,170	4,460	6,680

CAL YR 1966: TOTAL 15,851.8 MEAN 43.4 MAX 909 MIN 3.6 AC-FT 31,440
WAT YR 1967: TOTAL 140,356.4 MEAN 385 MAX 4,660 MIN 4.4 AC-FT 278,400

SAN JOAQUIN RIVER BASIN

11-3150. COLE CREEK NEAR SALT SPRINGS DAM, CALIF.

LOCATION.--Lat 38°31'28", long 120°12'28", in SE $\frac{1}{4}$ sec.21, T.8 N., R.16 E., on right bank 1.8 miles north of Salt Springs Dam, 3.4 miles upstream from mouth, and 6.3 miles southwest of Mokelumne Peak.

DRAINAGE AREA.--20.4 sq mi.

RECORDS AVAILABLE.--July 1927 to November 1942, October 1943 to September 1967. Prior to October 1958, published as Cold Creek near Mokelumne Peak. October 1958 to September 1962, published as "near Mokelumne Peak."

GAGE.--Graphic water-stage recorder. Altitude of gage is 5,970 ft (from topographic map).

AVERAGE DISCHARGE.--39 years, 63.1 cfs (45,680 acre-ft per year).

EXTREMES.--Maximum discharge during year, 1,480 cfs Mar. 16 (gage height, 5.84 ft); no flow for several days. 1927-67: Maximum discharge, 6,140 cfs Dec. 23, 1964 (gage height, 10.21 ft), from rating curve extended above 900 cfs on basis of slope-area measurement at gage height 9.69 ft; no flow for many days in 1931, 1948-49, 1954-55, 1960, 1966.

REMARKS.--Records good. Occasional pumping for domestic use in summer home tract began in September 1961. See schematic diagram of Mokelumne River basin.

COOPERATION.--Gage-height record and six discharge measurements furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0.10	58	19	51	44	61	38	160	418	7.5	0.40
2	0	.10	72	18	38	44	55	45	126	429	6.0	.40
3	0	.10	77	18	34	48	50	57	155	358	5.0	.40
4	0	.10	37	19	33	37	46	72	292	313	4.0	.40
5	0	.10	64	18	41	33	43	56	328	278	3.5	.40
6	0	.10	427	17	41	32	41	87	272	252	3.0	.40
7	0	.20	124	16	48	40	45	98	337	216	2.5	.40
8	0	.20	68	16	49	47	42	268	373	192	2.1	.40
9	0	.10	50	16	50	55	46	250	400	164	2.0	.40
10	0	.10	48	16	59	49	50	162	400	147	1.7	.30
11	0	.10	48	16	54	38	47	114	358	144	1.5	.40
12	0	.10	41	17	60	36	41	101	328	137	1.3	.40
13	0	.10	41	18	63	34	47	116	346	129	1.2	.40
14	0	.10	34	22	52	33	56	168	391	112	1.1	.30
15	.10	.20	34	24	43	77	48	280	460	96	1.0	.30
16	.10	2.9	38	26	37	772	38	397	513	83	.90	.30
17	.10	12	38	26	38	498	41	454	587	69	.80	.30
18	0	4.6	39	23	37	248	41	443	513	59	.70	.70
19	0	2.3	40	22	38	156	40	426	482	47	.70	.60
20	0	63	39	17	36	124	37	577	471	37	.70	.40
21	.10	17	32	28	38	111	36	676	488	32	.80	.40
22	.10	17	30	23	37	123	35	662	496	27	1.0	.40
23	.10	9.8	28	25	38	123	34	619	443	25	1.0	.50
24	.10	7.2	26	31	37	103	33	607	482	22	1.0	.60
25	.10	7.0	24	30	32	94	32	552	520	20	1.0	.70
26	.10	7.2	23	30	29	85	34	499	482	18	1.2	.50
27	.10	9.0	22	35	30	79	36	471	450	16	1.0	.40
28	.10	222	24	48	37	103	32	442	471	14	.90	.40
29	.10	182	23	60	- - - -	94	30	385	478	13	.80	.40
30	.10	57	22	66	- - - -	80	32	313	474	11	.70	.40
31	.10	- - - -	20	56	- - - -	70	- - - -	235	- - - -	9.0	.50	- - - -
Total	1.40	621.80	1,691	816	1,180	3,510	1,249	9,670	12,076	3,887.0	57.10	12.70
Mean	.04	20.7	54.5	26.3	42.1	113	41.6	312	403	125	1.84	.42
Max	.10	222	427	66	63	772	61	676	587	429	7.5	.70
Min	0	.10	20	16	29	32	30	38	126	9.0	.50	.30
Ac-ft	2.8	1,230	3,350	1,620	2,340	6,960	2,480	19,180	23,950	7,710	113	25

Cal yr 1966 : Total 16,381.3 Mean 44.9 Max 288 Min 0 Ac-ft 32,490
Wtr yr 1967 : Total 34,772.0 Mean 95.3 Max 772 Min 0 Ac-ft 68,970

Peak discharge (base, 500 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-28	1500	4.45	702	5-21	1900	5.18	1,070
12-6	1100	5.13	1,050	6-17	1900	5.02	986
3-16	1600	5.84	1,480				

SAN JOAQUIN RIVER BASIN

741

11-3160. BEAR RIVER NEAR SALT SPRINGS DAM, CALIF.

LOCATION.--Lat 38°29'37", long 120°17'18", in NW¼ sec.2, T.7 N., R.15 E., on right bank 200 ft upstream from diversion to Tiger Creek powerhouse conduit and highway bridge, 1.5 miles upstream from mouth, and 4 miles west of Salt Springs Dam.

DRAINAGE AREA.--48.0 sq mi.

RECORDS AVAILABLE.--October 1951 to September 1967.

GAGE.--Digital water-stage recorder and broad-crested weir. Altitude of gage is 3,710 ft (from topographic map). Prior to Sept. 30, 1964, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--16 years, 60.1 cfs (43,510 acre-ft per year).

EXTREMES.--Maximum discharge during year, 974 cfs June 27 (gage height, 3.52 ft); minimum daily, 2.1 cfs Nov. 5. 1951-67: Maximum discharge, 11,000 cfs Dec. 24, 1964 (gage height, 10.11 ft in gage well, 11.8 ft from flood profile), from rating curve extended above 560 cfs on basis of slope-area measurements of maximum flow; minimum daily, 1.0 cfs Aug. 23-28, 1961.

Flood in November 1950 reached a stage of 11.2 ft, from floodmarks (discharge, 10,000 cfs).

REMARKS.--Records good. Flow regulated by Bear River Reservoir since 1900 (capacity, 6,760 acre-ft) and Lower Bear River Reservoir since December 1952 (capacity, 49,100 acre-ft). Water diverted for power from Lower Bear River Reservoir through tunnel to Salt Springs powerhouse on North Fork Mokelumne River since December 1952. Water diverted occasionally from Cole Creek into Lower Bear River Reservoir. See schematic diagram of Mokelumne River basin.

COOPERATION.--Gage-height record and five discharge measurements furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	4.8	4.8	17	9.5	60	25	44	25	75	646	7.4	5.8
2	4.8	4.5	62	9.5	50	25	41	29	66	601	7.4	5.8
3	4.8	2.3	39	9.2	44	26	40	36	63	547	7.3	5.8
4	4.8	2.2	18	9.1	41	24	39	40	65	462	7.3	5.9
5	4.8	2.1	68	9.3	41	23	37	39	74	412	7.1	5.8
6	4.8	4.1	180	8.8	40	22	37	48	67	349	7.1	5.7
7	4.8	3.9	68	8.8	41	22	37	67	64	293	7.1	5.6
8	4.8	2.9	41	8.7	41	23	35	92	61	241	7.0	5.6
9	4.8	2.3	31	8.6	41	24	37	105	59	212	6.8	5.6
10	4.8	2.3	32	8.5	43	25	36	106	55	176	5.9	5.6
11	4.8	2.3	26	8.5	43	25	34	84	52	154	7.0	5.6
12	4.8	2.3	23	8.9	45	25	32	75	49	143	7.0	5.5
13	4.8	2.3	21	8.5	46	26	34	75	46	130	6.9	5.5
14	4.8	2.3	19	8.8	46	23	35	86	42	97	6.8	5.5
15	4.8	3.1	17	8.8	40	24	32	112	40	59	6.8	5.5
16	4.8	16	17	8.8	37	168	31	137	38	25	6.8	5.4
17	4.8	5.7	16	8.5	35	156	31	155	37	11	6.7	5.5
18	4.8	3.5	16	8.4	34	110	31	156	34	8.8	6.7	7.8
19	4.7	3.9	16	8.4	33	89	28	158	459	8.4	6.7	5.7
20	4.8	15	16	12	31	77	27	171	660	8.4	6.6	5.5
21	5.0	9.5	15	32	28	74	26	184	662	8.4	6.6	5.7
22	5.0	9.0	14	19	28	73	26	184	564	8.0	6.5	6.0
23	5.0	6.4	13	13	27	83	25	173	495	8.0	6.9	5.7
24	5.0	4.9	13	12	26	71	26	162	496	8.0	6.3	5.6
25	4.9	4.2	12	11	28	63	26	150	560	7.8	6.2	5.5
26	4.9	4.0	11	23	25	58	26	140	536	7.8	6.1	5.4
27	4.9	4.4	11	36	24	53	27	127	712	7.8	5.9	5.3
28	4.9	24	11	43	24	69	25	115	772	7.8	5.9	5.5
29	4.9	18	10	112	-----	59	24	103	590	7.7	5.8	5.5
30	4.9	8.9	10	98	-----	52	24	92	706	7.6	5.7	5.3
31	4.9	-----	9.9	84	-----	49	-----	87	-----	7.6	5.8	-----
TOTAL	150.2	181.1	872.9	662.6	1,042	1,666	953	3,313	8,199	4,670.1	206.1	170.2
MEAN	4.85	6.04	28.2	21.4	37.2	53.7	31.8	107	273	151	6.65	5.67
MAX	5.0	24	180	112	60	168	44	184	772	646	7.4	7.8
MIN	4.7	2.1	9.9	8.4	24	22	24	25	34	7.6	5.7	5.3
AC-FT	298	359	1,730	1,310	2,070	3,300	1,890	6,570	16,260	9,260	409	338

CAL YR 1966: TOTAL 4,743.6 MEAN 13.0 MAX 180 MIN 2.1 AC-FT 9,410

WAT YR 1967: TOTAL 22,086.2 MEAN 60.5 MAX 772 MIN 2.1 AC-FT 43,810

SAN JOAQUIN RIVER BASIN

11-3168. FOREST CREEK NEAR WILSEYVILLE, CALIF.

LOCATION.--Lat 38°24'10", long 120°26'45", in SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec.4, T.6 N., R.14 E., on left bank 1.0 mile downstream from Lion Creek, 1.8 miles upstream from mouth, and 4 miles northeast of Wilseyville.

DRAINAGE AREA.--20.8 sq mi.

RECORDS AVAILABLE.--July 1960 to September 1967.

GAGE.--Digital water-stage recorder. Altitude of gage is 2,950 ft (from topographic map). Prior to July 13, 1967, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--7 years, 23.1 cfs (16,720 acre-ft per year).

EXTREMES.--Maximum discharge during year, 446 cfs Dec. 6 (gage height, 5.30 ft); minimum daily, 1.7 cfs Oct. 1. 1960-67: Maximum discharge, 1,770 cfs Dec. 24, 1964 (gage height, 7.68 ft), from rating curve extended above 500 cfs on basis of slope-area measurement at gage height 7.41 ft; minimum, 0.6 cfs Aug. 24, 25, 1961.

REMARKS.--Records good. No regulation. Minor diversions above station for irrigation and domestic use. See schematic diagram for Mokelumne River basin.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.7	2.4	16	9.3	90	22	72	68	79	24	12	7.9
2	2.2	2.4	66	8.6	72	22	68	73	73	23	11	7.8
3	2.4	2.4	50	8.6	61	22	68	79	68	22	11	7.6
4	2.4	2.4	24	8.6	52	22	72	88	64	21	11	8.4
5	2.4	2.4	105	8.9	48	20	73	90	74	21	11	8.7
6	2.4	3.7	248	8.3	45	20	85	91	70	20	11	8.1
7	2.3	5.1	98	8.9	42	20	110	105	65	20	11	7.8
8	2.6	3.9	53	8.3	41	20	85	120	63	18	11	7.9
9	2.6	3.7	38	8.3	40	20	77	140	60	18	11	8.0
10	2.6	3.3	36	8.3	39	20	76	195	57	17	11	7.7
11	2.6	3.7	28	8.3	38	22	74	155	55	17	11	7.4
12	2.4	3.9	24	8.0	38	30	73	140	52	16	11	7.8
13	2.6	3.9	21	8.0	38	31	72	132	50	15	10	7.7
14	2.6	3.9	19	8.0	40	29	73	128	48	15	10	7.6
15	3.0	4.6	18	8.0	38	40	73	136	45	16	9.6	7.4
16	3.0	17	17	7.7	36	303	68	148	43	15	9.3	7.3
17	2.8	9.4	16	7.7	35	260	72	165	42	15	9.2	7.5
18	3.0	6.0	14	7.4	33	155	87	170	40	15	9.2	10
19	2.7	6.5	14	7.4	32	122	74	168	39	15	9.2	8.7
20	2.7	22	14	8.6	30	107	72	170	38	14	9.1	8.3
21	2.7	16	13	7.3	28	100	70	180	36	14	8.9	9.0
22	2.6	20	12	7.6	28	96	68	178	35	13	9.1	8.4
23	2.3	11	12	3.6	27	100	69	162	33	13	9.1	8.8
24	2.3	7.8	12	3.2	25	93	74	148	32	12	9.0	8.8
25	2.3	6.8	11	3.0	26	85	73	130	30	12	8.6	9.7
26	2.1	6.3	10	3.6	24	79	73	120	29	12	8.7	8.5
27	2.1	6.0	10	4.4	24	73	82	110	28	12	8.8	8.2
28	2.1	1.4	10	4.7	23	87	73	103	26	12	8.4	8.2
29	2.3	1.9	10	1.29	23	83	68	96	25	12	8.1	8.8
30	2.6	1.3	9.7	1.14	23	74	68	88	24	12	7.9	9.5
31	2.6	---	9.3	1.28	---	74	---	80	---	12	7.8	---
Total	77.0	232.5	1038.0	910.2	1093	2251	2242	3956	1423	493	303.0	245.5
Mean	2.48	7.75	33.5	29.4	39.0	72.6	74.7	128	47.4	15.9	9.77	8.18
Max	3.0	22	248	129	90	303	110	195	79	24	12	10
Min	1.7	2.4	9.3	7.4	23	20	68	68	24	12	7.8	7.3
Ac-ft	153	461	2060	1810	2170	4460	4450	7850	2820	978	601	487

Cal yr 1966: Total 5,110.1 Mean 14.0 Max 248 Min 1.0 Ac-ft 10,140
Wtr yr 1967: Total 14,264.2 Mean 39.1 Max 303 Min 1.7 Ac-ft 28,290

Peak discharge (base, 120 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-2	2200	4.28	128	3-16	1800	5.22	413
12-6	1200	5.30	446	4-6	2200	4.32	134
1-21	2400	4.51	178	5-10	0730	4.70	230
1-29	1100	4.59	198	5-21	2200	4.58	195

11-3170. MIDDLE FORK MOKELUMNE RIVER AT WEST POINT, CALIF.

LOCATION.--Lat 38°23'23", long 120°31'32", in SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.10, T.6 N., R.13 E., on right bank 200 ft downstream from highway bridge, 0.6 mile south of West Point, and 4.5 miles upstream from South Fork Mokelumne River.

DRAINAGE AREA.--68.4 sq mi.

RECORDS AVAILABLE.--October 1911 to September 1967. Monthly discharge only for October 1911, published in WSP 1315-A.

GAGE.--Digital water-stage recorder. Altitude of gage is 2,450 ft (from topographic map). Prior to Oct. 6, 1926, staff gage at site 1,200 ft upstream at different datum. Oct. 6, 1926, to Aug. 18, 1928, staff gage at present site and datum. Aug. 19, 1928, to Sept. 20, 1967, graphic water-stage recorder at present site and datum.

AVERAGE DISCHARGE.--56 years, 118 cfs (43,080 acre-ft per year).

EXTREMES.--Maximum discharge during year, 1,240 cfs Mar. 16 (gage height, 5.37 ft); minimum daily, 4.6 cfs Oct. 11.

1911-67: Maximum discharge, 4,320 cfs Dec. 23, 1955 (gage height, 8.98 ft); no flow Aug. 23 to Sept. 14, 1931, Sept. 9, 1934.

REMARKS.--Records good except those for the summer period, which are fair. Flow slightly regulated by Middle Fork Reservoir (capacity, 1,740 acre-ft), 6 miles above station, since January 1940. Several small diversions above station. Water diverted at times 4 miles above station to South Fork Mokelumne River via Middle Fork ditch (capacity, 15 cfs) and Licking Fork Mokelumne River. See schematic diagram for Mokelumne River basin.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	32	5.4	44	43	295	59	223	205	234	79	37	18
2	31	5.4	142	42	225	56	214	221	216	72	37	18
3	31	5.1	116	41	183	64	207	236	196	67	34	17
4	31	5.1	72	39	158	62	227	254	190	66	31	16
5	31	5.4	211	39	145	61	234	258	234	65	31	20
6	31	7.8	472	38	132	61	318	256	218	64	29	26
7	32	9.3	262	38	124	60	435	288	201	63	37	21
8	31	7.1	194	37	119	59	290	339	190	65	46	14
9	28	6.8	136	35	116	58	249	402	183	68	43	15
10	12	6.8	121	34	116	59	247	537	179	69	32	14
11	4.6	7.1	100	28	111	68	251	435	172	70	20	14
12	5.3	8.5	89	16	110	113	232	381	166	68	28	18
13	14	8.5	83	15	111	119	227	351	158	67	25	17
14	7.2	8.5	79	15	118	103	227	348	154	64	23	17
15	8.0	12	76	14	103	118	232	375	146	64	28	16
16	7.4	28	73	14	99	897	214	435	146	65	35	17
17	5.9	35	70	14	92	835	227	477	150	68	34	18
18	6.8	27	67	14	89	484	290	492	145	73	28	27
19	6.5	15	64	15	86	372	256	480	137	67	26	27
20	6.2	34	61	24	79	315	240	492	132	56	23	20
21	6.2	44	60	301	76	290	238	519	122	51	23	17
22	5.6	56	58	283	71	278	229	507	116	46	20	16
23	5.4	37	55	102	68	290	243	374	114	43	19	18
24	5.1	31	54	106	67	271	265	435	97	40	23	20
25	5.1	28	54	93	72	247	247	393	92	41	25	23
26	4.8	21	53	93	67	229	236	351	85	39	34	22
27	4.8	7.8	49	108	64	214	273	312	83	35	29	23
28	5.1	14	49	113	61	251	240	300	76	32	13	26
29	5.1	28	48	272	249	223	276	276	72	28	16	27
30	5.4	39	47	324	227	205	258	73	28	28	17	26
31	5.4	---	46	469	---	232	---	243	---	31	17	---
Total	419.9	553.6	3105	2819	3157	6801	7439	11230	4477	1754	863	588
Mean	13.5	18.5	100	90.9	113	219	248	362	149	56.6	27.8	19.6
Max	32	56	472	469	295	897	435	537	234	79	46	27
Min	4.6	5.1	44	14	61	56	205	205	72	28	13	14
Ac-ft	833	1100	6160	5590	6260	13490	14760	22270	8880	3480	1710	1170

Cal yr 1966: Total 14,415.4 Mean 39.5 Max 472 Min 1.0 Ac-ft 28,600
Wtr yr 1967: Total 43,206.5 Mean 118 Max 897 Min 4.6 Ac-ft 85,700

Peak discharge (base, 400 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-6	1030	4.80	940	4-6	2200	3.98	612
1-21	2400	4.70	900	5-10	0800	4.16	684
1-31	0830	4.14	676	5-21	2100	3.87	568
3-16	1800	5.37	1,240				

SAN JOAQUIN RIVER BASIN

11-3185. SOUTH FORK MOKELUMNE RIVER NEAR WEST POINT, CALIF.

LOCATION.--Lat 38°22'06", long 120°32'40", in SE $\frac{1}{4}$ sec.16, T.6 N., R.13 E., on right bank 500 ft upstream from highway bridge, 2.4 miles southwest of West Point, and 2.5 miles upstream from mouth.

DRAINAGE AREA.--75.1 sq mi.

RECORDS AVAILABLE.--October 1933 to September 1967.

GAGE.--Digital water-stage recorder. Altitude of gage is 1,950 ft (from topographic map). Prior to Sept. 19, 1957, graphic water-stage recorder at site 1,100 ft downstream at different datum. Sept. 19, 1957, to Jan. 15, 1964, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--34 years, 83.1 cfs (60,160 acre-ft per year); median of yearly mean discharges, 71 cfs (51,400 acre-ft per year).

EXTREMES.--Maximum discharge during year, 2,020 cfs Dec. 6 (gage height, 7.49 ft); minimum daily, 5.9 cfs Oct. 11.

1933-67: Maximum discharge, 6,920 cfs Dec. 23, 1955 (gage height, 14.8 ft, from floodmarks, site and datum then in use), from rating curve extended above 1,800 cfs on basis of slope-area measurement of maximum flow; no flow Aug. 6, 7, Aug. 12 to Sept. 26, 1934.

REMARKS.--Records good except those for periods of no gage-height record, which are fair. Several small diversions above station for domestic use and for irrigation of about 100 acres. Diversions into South Fork Mokelumne River basin above station at times from North Fork Calaveras River and from Middle Fork Mokelumne River for use below station. See schematic diagram for Mokelumne River basin.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	7.7	8.5	48	33	404	68	260	235	251	73	35	22
2	8.1	8.6	275	32	291	66	240	248	234	70	34	22
3	8.6	9.4	272	31	233	74	232	268	217	69	33	21
4	8.9	9.7	112	31	198	72	245	284	210	67	32	23
5	8.7	9.9	448	32	179	71	275	290	253	64	32	25
6	8.9	16	1,060	29	164	71	380	292	229	62	32	22
7	7.9	29	404	29	154	70	480	320	215	60	32	22
8	7.9	17	220	29	147	69	310	375	206	58	32	22
9	8.1	15	156	28	140	68	275	450	196	56	32	23
10	7.0	13	141	28	138	70	270	619	187	56	31	22
11	5.9	13	113	27	135	80	280	500	178	55	30	21
12	6.2	13	96	27	134	128	255	440	170	53	29	22
13	8.4	12	86	27	136	146	252	408	161	51	28	22
14	7.3	12	78	26	136	130	254	412	154	50	28	21
15	7.3	14	71	26	123	150	260	458	141	48	28	20
16	7.0	62	65	25	115	1,050	245	528	136	48	27	20
17	7.8	38	60	25	109	990	250	575	134	47	26	21
18	8.3	23	56	25	103	700	330	573	125	45	25	27
19	8.4	22	53	24	98	430	290	552	120	44	25	26
20	8.5	68	52	32	93	375	278	563	115	43	25	22
21	8.5	66	49	513	89	340	275	578	109	42	25	21
22	8.3	87	46	649	84	316	272	563	103	40	25	21
23	8.4	43	44	182	80	327	275	523	98	41	25	22
24	8.4	31	42	191	77	301	302	481	94	40	25	25
25	8.2	26	41	156	82	272	273	433	91	39	24	26
26	8.6	22	40	135	77	249	275	388	89	38	25	23
27	8.7	18	36	158	75	240	310	351	85	36	25	23
28	8.2	32	36	170	73	270	276	325	82	37	24	22
29	8.5	75	35	477	-----	275	255	297	79	36	22	22
30	8.6	48	35	484	-----	262	232	273	76	36	22	21
31	9.0	-----	33	640	-----	265	-----	260	-----	35	22	-----
TOTAL	250.3	861.1	4,303	4,321	3,867	7,995	8,406	12,862	4,538	1,539	860	672
MEAN	8.07	28.7	139	139	138	258	280	415	151	49.6	27.7	22.4
MAX	9.0	87	1,060	649	404	1,050	480	619	253	73	35	27
MIN	5.9	8.5	33	24	73	66	232	235	76	35	22	20
AC-FT	496	1,710	8,530	8,570	7,670	15,860	16,670	25,510	9,000	3,050	1,710	1,330

CAL YR 1966: TOTAL 16,557.7 MEAN 45.4 MAX 1,060 MIN 5.9 AC-FT 32,840
 WAT YR 1967: TOTAL 50,474.4 MEAN 138 MAX 1,060 MIN 5.9 AC-FT 100,100

Peak discharge (base, 500 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-3	0030	5.15	588	3-16	----	7.24	1,850
12-6	1245	7.49	2,020	4-7	----	6.00	1,020
1-22	0100	7.14	1,780	5-10	0730	5.56	780
1-31	0830	5.72	860	5-21	2030	5.28	646

Note.--No gage-height record Feb. 17 to Mar. 21, Mar. 27 to May 9.

SAN JOAQUIN RIVER BASIN

745

11-3195. MOKELUMNE RIVER NEAR MOKELUMNE HILL, CALIF.

LOCATION.--Lat 38°18'46", long 120°43'09", in SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.1, T.5 N., R.11 E., on downstream side of bridge, 1.2 miles northwest of Mokelumne Hill, and 8 miles downstream from confluence of North and South Forks of Mokelumne River.

DRAINAGE AREA.--544 sq mi.

RECORDS AVAILABLE.--January to June 1901, May 1903 to December 1904, October 1927 to September 1987. Yearly estimate only for water year 1928 (incomplete), published in WSP 1315-A. Published as "at Electra" 1901, 1903-4.

GAGE.--Digital water-stage recorder. Datum of gage is 589.88 ft above mean sea level (levels by California Division of Highways). Jan. 1 to June 30, 1901, and May 11, 1903, to Dec. 31, 1904, staff gage at site 3 miles upstream at different datum. Nov. 10, 1927, to Aug. 26, 1952, graphic water-stage recorder at site 40 ft upstream at same datum. Aug. 26, 1952, to Apr. 2, 1965, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--41 years (1903-4, 1927-67), 959 cfs (694,300 acre-ft per year).

EXTREMES.--Maximum discharge during year, 7,010 cfs June 18 (gage height, 8.79 ft); minimum daily, 25 cfs Oct. 30.

1901, 1903-4, 1927-67: Maximum discharge, 33,700 cfs Dec. 3, 1950 (gage height, 18.5 ft); minimum observed, 5 cfs Aug. 13-15, 17, 18, 1904.

REMARKS.--Records good. Flow regulated by Salt Springs Reservoir beginning in 1931 (see sta. no. 3135), several smaller reservoirs, and four powerplants. Diversion above station for irrigation and domestic use. See schematic diagram for Mokelumne River basin. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	619	596	655	799	3,600	773	1,700	1,660	2,200	5,150	664	685
2	541	518	1,280	718	2,220	892	1,650	1,590	2,190	5,030	736	596
3	642	628	1,490	719	1,480	942	1,680	1,630	1,910	4,600	715	617
4	591	584	1,010	749	1,340	846	1,610	1,720	2,030	4,530	658	664
5	599	557	1,690	797	974	1,010	1,720	1,770	2,810	3,490	236	574
6	524	684	3,580	689	837	887	1,930	1,740	3,010	3,130	305	657
7	555	663	2,360	723	844	855	2,940	1,810	3,170	3,550	605	605
8	726	633	1,370	704	950	822	2,090	2,160	3,550	2,670	675	658
9	546	555	1,210	713	602	877	1,780	2,420	3,900	2,530	627	646
10	604	485	1,130	757	681	914	1,750	3,130	4,050	2,150	742	638
11	471	660	1,070	602	806	969	1,930	2,670	4,070	2,150	719	643
12	608	562	859	675	722	1,150	1,760	2,370	3,960	1,850	663	594
13	598	676	976	738	765	1,250	1,630	2,120	3,870	2,410	635	706
14	499	506	892	615	774	1,150	1,670	2,250	3,750	2,040	708	651
15	635	667	841	690	602	1,090	1,730	2,390	3,640	1,800	597	652
16	418	666	831	544	785	4,030	1,710	2,820	4,030	1,910	741	325
17	534	802	908	716	716	4,910	1,620	3,170	4,970	1,520	659	433
18	568	686	874	675	648	3,090	2,090	3,150	6,260	1,400	563	620
19	597	562	795	588	664	2,280	2,000	3,160	5,330	1,280	744	694
20	541	763	880	531	611	1,980	1,810	3,080	4,830	1,260	606	625
21	602	794	1,050	1,450	636	1,850	1,870	3,580	5,090	1,130	633	668
22	480	836	941	2,260	943	1,660	1,950	3,810	5,380	1,160	633	666
23	585	714	1,020	1,210	816	1,650	1,790	3,730	4,960	1,140	725	669
24	487	767	1,050	1,010	794	1,700	2,070	3,570	4,300	1,130	681	628
25	513	578	1,070	988	819	1,630	1,890	3,480	5,540	989	576	684
26	428	674	1,000	1,180	917	1,440	1,830	3,180	5,730	796	616	655
27	641	573	1,020	1,220	805	1,330	1,730	2,860	5,510	637	740	633
28	566	600	978	821	841	1,430	1,680	2,800	5,170	694	587	650
29	127	750	1,100	2,560	-----	1,570	1,680	2,810	5,290	797	704	647
30	25	1,100	986	3,260	-----	1,390	1,460	2,490	5,240	610	637	631
31	381	-----	850	4,140	-----	1,700	-----	2,400	-----	761	606	-----
TOTAL	16,251	19,839	35,766	33,841	27,192	48,067	54,750	81,520	125,740	64,294	19,736	18,814
MEAN	524	661	1,154	1,092	971	1,551	1,825	2,630	4,191	2,074	637	627
MAX	726	1,100	3,580	4,140	3,600	4,910	2,940	3,810	6,260	5,150	744	706
MIN	25	485	655	531	602	773	1,460	1,590	1,910	610	236	325
AC-FT	32,230	39,350	70,940	67,120	53,930	95,340	108,600	161,700	249,400	127,500	39,150	37,320

CAL YR 1966: TOTAL 236,000 MEAN 647 MAX 3,580 MIN 25 AC-FT 468,100
WAT YR 1967: TOTAL 545,810 MEAN 1,495 MAX 6,260 MIN 25 AC-FT 1,083,000

Note.--No gage-height record Jan. 16 to Mar. 1.

SAN JOAQUIN RIVER BASIN

11-3200. PARDEE RESERVOIR NEAR VALLEY SPRINGS, CALIF.

LOCATION.--Lat 38°15'30", long 120°51'00", in N½SW¼ sec.26, T.5 N., R.10 E., at Pardee Dam on the Mokelumne River 4.5 miles north of Valley Springs.

DRAINAGE AREA.--578 sq mi.

RECORDS AVAILABLE.--October 1961 to September 1967 in reports of Geological Survey. March 1929 to September 1961 in files of East Bay Municipal Utility District.

GAGE.--Graphic water-stage recorder. Datum of gage is at mean sea level (levels by East Bay Municipal Utility District).

EXTREMES.--Maximum contents during year, 211,400 acre-ft July 9 (elevation, 568.31 ft); minimum, 147,500 acre-ft June 6 (elevation, 536.44 ft).
1929-67: Maximum contents, 219,300 acre-ft Dec. 23, 1955 (elevation, 571.72 ft); minimum, 49,000 acre-ft Aug. 31, 1931 (elevation, 457.6 ft).

REMARKS.--Reservoir is formed by a curved concrete gravity dam, completed in 1929; storage began Mar. 9, 1929. Usable capacity, 194,100 acre-ft between elevations 393.50 (diversion tunnel invert) and 567.65 ft (spillway crest) above mean sea level. Dead storage, 15,800 acre-ft. Water is released from reservoir for municipal use in the area on the east side of San Francisco Bay. Small intermittent diversions are made to Jackson Valley Irrigation District. Records including extremes represent total contents at 2400 hours. See schematic diagram for Mokelumne River basin.

COOPERATION.--Records furnished by East Bay Municipal Utility District.

CAPACITY TABLE (ELEVATION, IN FEET, AND CONTENTS, IN ACRE-FT)

523	125,100
530	136,500
540	153,800
550	172,700
560	193,200
570	215,300
580	239,100

Contents, in thousands of acre-feet, at 2400 hours, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	159.3	156.6	170.8	181.9	197.5	181.9	194.0	185.3	147.9	200.3	203.3	191.2
2	159.7	156.7	172.3	182.7	191.3	181.4	193.8	182.9	147.7	201.2	202.6	191.8
3	159.6	156.9	174.6	182.4	191.8	180.9	193.5	180.5	147.8	203.5	201.9	192.4
4	159.5	157.1	176.1	182.2	191.6	180.2	193.8	178.3	148.0	204.8	201.2	193.1
5	159.2	157.6	178.6	182.0	190.7	179.8	193.8	176.2	147.9	207.0	200.0	192.9
6	158.9	158.5	185.6	181.7	190.0	179.2	194.7	174.1	147.5	209.6	199.0	192.8
7	158.7	158.8	188.6	181.5	189.7	178.6	193.5	171.9	147.9	211.1	198.6	192.5
8	159.5	159.0	189.0	182.3	189.6	177.9	194.7	170.1	147.9	211.3	198.3	192.3
9	160.0	159.2	189.2	181.9	188.7	177.3	195.2	170.5	148.3	211.4	197.9	193.0
10	159.9	159.2	189.1	181.6	188.1	176.7	194.9	169.7	150.2	210.5	197.8	193.8
11	159.5	159.8	189.0	181.0	187.7	176.4	193.3	167.3	151.8	209.9	197.6	193.6
12	159.2	160.4	188.5	180.7	187.1	176.5	194.0	165.6	153.8	210.0	197.3	193.3
13	159.1	161.0	188.1	180.4	186.5	177.5	194.7	163.8	155.3	209.9	196.9	193.2
14	158.5	161.1	187.7	179.9	186.0	178.3	195.5	166.3	157.0	210.0	196.7	192.9
15	159.2	161.7	187.1	180.7	185.2	178.7	194.6	164.0	159.1	210.0	196.3	192.7
16	159.5	162.1	186.4	180.1	184.7	185.4	194.2	161.8	160.6	209.9	196.1	192.8
17	159.3	162.6	186.0	179.9	184.6	192.3	194.7	159.3	163.2	209.9	195.8	193.2
18	159.1	163.0	185.4	179.6	184.6	194.9	193.7	159.3	165.5	210.0	195.3	192.9
19	158.9	163.6	184.8	179.1	184.7	194.3	193.5	159.2	166.3	209.7	195.1	192.9
20	159.5	164.8	184.2	178.5	184.6	193.0	194.1	159.3	168.1	209.9	194.7	192.5
21	158.4	165.4	184.1	181.0	184.6	193.8	194.3	159.5	170.3	209.8	194.4	192.2
22	159.7	166.0	183.6	186.3	185.2	194.5	193.3	157.1	173.0	209.8	194.0	192.2
23	159.3	166.1	183.4	187.1	184.9	195.0	193.9	154.2	174.5	209.9	193.8	192.9
24	158.9	167.0	183.1	187.6	184.4	194.0	194.7	150.9	176.1	208.5	193.6	193.7
25	159.5	167.2	183.0	187.7	183.9	193.7	194.9	150.2	179.2	208.3	193.1	193.6
26	158.1	167.8	182.7	188.1	183.6	194.0	194.1	150.2	182.5	207.8	192.7	193.5
27	158.1	168.4	182.4	188.6	183.1	194.0	192.0	150.4	186.5	206.9	192.6	193.2
28	157.9	168.7	182.0	188.4	182.6	194.0	189.9	150.4	190.4	206.1	192.2	193.0
29	157.7	169.6	181.9	192.3	-----	193.6	187.9	150.3	194.7	205.5	192.0	192.7
30	157.2	170.2	181.5	197.5	-----	193.2	187.1	150.5	198.0	204.6	191.7	193.5
31	156.5	-----	181.0	200.9	-----	194.0	-----	147.6	-----	204.1	191.3	-----
(+)	541.46	548.71	554.14	563.59	554.95	560.40	557.14	536.52	562.26	565.04	559.11	560.14
(+)	-2100	+13,700	+10,800	+20,000	-18,300	+11,400	+6,900	-39,500	+50,400	+61,000	+12,800	+2,200
(++)	649	291	198	121	154	337	321	804	318	1,395	1,401	1,035
(**)	16,820	16,460	17,530	16,790	13,920	16,280	14,050	16,550	16,520	18,380	18,150	17,290
Max	160.0	170.2	189.2	200.9	197.5	195.0	195.5	185.3	198.0	211.4	203.3	193.7
Min	156.5	156.6	170.8	178.5	182.6	176.5	187.1	147.6	147.7	200.3	191.3	191.2

Calendar year 1966..... + -17,100

Max 197.7

Min 156.5

Water year 1966-67..... + 34,900

Max 211.4

Min 147.6

† Elevation, in feet, at end of month.

* Change in contents, in acre-feet.

++ Evaporation, in acre-feet.

** Diversions, in acre-feet from Pardee Reservoir to East Bay Municipal Utility District and to Jackson Valley Irrigation District.

SAN JOAQUIN RIVER BASIN

747

11-3223. CAMANCHE RESERVOIR NEAR CLEMENTS, CALIF.

LOCATION.--Lat 38°13'31", long 121°01'17", in SE¼ sec.6, T.4 N., R.9 E., at Camanche Dam on the Mokelumne River, 4.3 miles northeast of Clements.

DRAINAGE AREA.--621 sq mi.

RECORDS AVAILABLE.--December 1963 to September 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is at mean sea level (levels by East Bay Municipal Utility District).

EXTREMES.--Maximum contents during year, 425,700 acre-ft July 14 (elevation, 234.82 ft); minimum, 69,100 acre-ft Oct. 16, 23 (elevation, 165.13 ft).

1963-67: Maximum contents, 425,700 acre-ft July 14, 1967 (elevation, 234.82 ft); minimum after initial season of operation, 68,700 acre-ft Sept. 5, 11, 18, 1966 (elevation, 164.97 ft).

REMARKS.--Reservoir is formed by earth-fill dam. Storage began Dec. 18, 1963. Usable capacity, 430,300 acre-ft between elevations 104.00 (invert of emergency valve release) and 235.50 ft (spillway crest) above mean sea level. Dead storage, 534 acre-ft. Camanche Reservoir provides holdover storage to meet downstream water requirements and flood control on the Mokelumne River. Records, including extremes, represent total contents at 2400 hours. See schematic diagram for Mokelumne River basin.

COOPERATION.--Records furnished by East Bay Municipal Utility District.

CAPACITY TABLE (ELEVATION, IN FEET, AND CONTENTS, IN ACRE-FT)

120	500	160	57,100
130	1,360	170	82,600
140	2,500	190	156,200
150	3,900	220	320,900

CONTENTS, IN THOUSANDS OF ACRE-FEET, AT 2400 HOURS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	70.2	70.4	73.6	112.3	162.6	208.8	273.9	312.1	312.4	402.9	423.1	380.9
2	69.6	70.6	74.1	112.1	172.6	210.2	276.1	311.3	310.4	408.2	423.0	378.4
3	69.7	70.8	74.0	113.0	174.6	211.6	273.2	310.6	307.6	410.9	422.8	375.8
4	69.8	70.9	74.1	114.0	176.7	213.1	279.9	309.7	304.6	414.0	422.3	373.4
5	70.0	70.7	74.7	114.9	173.9	214.6	282.0	309.8	304.1	414.2	420.9	371.8
6	70.2	70.7	76.0	115.9	180.6	215.8	285.5	307.9	304.4	413.7	419.3	370.3
7	70.4	70.9	77.1	116.6	182.0	217.3	292.7	307.1	303.7	415.0	418.0	368.7
8	69.8	71.0	78.6	116.5	183.4	213.7	294.9	306.5	304.5	416.5	416.4	367.1
9	69.3	71.2	80.2	117.5	184.7	219.3	297.1	304.4	305.8	416.8	414.9	364.6
10	69.4	71.4	81.7	118.6	186.2	221.6	300.2	305.0	305.8	419.7	413.3	362.2
11	69.6	71.2	83.2	119.7	187.7	223.4	304.2	306.3	307.9	422.5	411.8	360.6
12	69.7	71.0	84.7	120.5	189.2	225.0	305.1	306.3	303.9	422.4	410.4	359.1
13	69.9	70.8	86.1	121.5	190.7	226.3	305.3	303.7	311.5	425.0	409.1	357.5
14	70.2	71.0	87.6	123.4	192.0	227.1	305.4	301.2	314.5	425.7	407.7	355.8
15	69.7	71.5	89.0	122.3	193.3	228.4	307.3	301.8	317.5	425.2	406.3	354.3
16	69.1	71.8	90.5	123.1	194.8	230.6	308.8	303.0	321.8	425.0	404.6	351.9
17	69.3	72.0	91.9	124.1	195.8	233.4	309.6	305.3	327.0	423.9	403.2	349.3
18	69.5	72.2	93.3	125.0	196.5	236.2	313.5	305.2	335.0	423.3	401.7	347.7
19	69.6	72.3	94.7	125.9	197.2	240.8	315.4	305.1	342.8	422.8	400.1	346.4
20	69.9	72.1	96.4	127.1	197.8	245.5	315.4	304.8	343.8	422.0	398.6	345.1
21	70.1	72.4	97.8	130.7	193.5	247.7	316.1	305.2	354.6	421.8	397.1	343.6
22	69.6	72.6	99.2	131.4	199.1	249.7	317.3	308.7	360.6	421.9	395.7	341.6
23	69.1	72.8	100.6	132.7	200.2	251.6	316.5	312.6	366.7	422.1	394.4	338.8
24	69.4	72.7	102.1	134.5	201.7	255.1	315.9	316.5	371.5	423.5	393.0	335.9
25	69.8	72.9	103.6	136.0	203.1	257.9	315.4	317.8	377.1	423.3	391.3	334.1
26	69.9	72.8	105.0	137.8	204.6	259.5	315.5	317.7	383.2	423.3	389.7	332.3
27	70.2	72.6	106.5	139.3	206.1	261.3	316.1	317.0	387.3	423.3	388.3	330.5
28	70.4	72.9	107.9	141.0	207.5	263.3	316.1	315.9	391.0	423.3	386.8	328.6
29	69.9	73.1	109.4	143.1	-----	266.0	315.4	315.3	394.5	423.2	385.3	326.9
30	69.6	73.3	110.9	145.8	-----	268.8	313.1	313.6	393.4	423.2	383.9	324.1
31	70.2	-----	112.4	152.5	-----	271.3	-----	314.6	-----	423.1	382.5	-----
(+)	165.55	166.74	179.04	189.14	200.72	212.11	218.80	219.03	231.15	234.38	223.96	220.48
(+)	- 600	+ 3,100	+39,100	+ 40,100	+55,000	+63,300	+41,300	+1,500	+83,300	+24,300	-40,500	-58,400
(++)	332	396	179	273	452	1,115	1,310	2,389	3,385	5,573	5,133	3,367
Max	70.4	73.3	112.4	152.5	207.5	271.3	317.3	317.8	398.4	425.7	423.1	380.9
Min	69.1	70.4	73.6	112.1	162.6	208.8	273.9	301.2	303.7	402.9	382.5	324.1

Calendar 1966..... † -20,000 Max 138.5 Min 68.7
 Water 1966-67..... † +253,300 Max 425.7 Min 69.1

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-feet.

†† Evaporation, in acre-feet.

SAN JOAQUIN RIVER BASIN

11-3235. MOKELUMNE RIVER BELOW CAMANCHE DAM, CALIF.

LOCATION.--Lat 38°13'15", long 121°02'20", in NW¼NW¼ sec.7, T.4 N., R.9 E., on left bank 0.7 mile downstream from Murphy Creek, 1.0 mile downstream from Camanche Dam, and 3.4 miles northeast of Clements.

DRAINAGE AREA.--627 sq mi.

RECORDS AVAILABLE.--October 1904 to September 1967. Monthly discharge only for some periods, published in WSP 1315-A and 1735. Prior to October 1961, published as "near Clements."

GAGE.--Digital water-stage recorder. Datum of gage is 82.91 ft above mean sea level. Oct. 28, 1904, to Apr. 18, 1926, staff gage at bridge 3.3 miles downstream at datum 13.82 ft lower. Apr. 19, 1926, to Apr. 8, 1931, graphic water-stage recorder, 75 ft downstream from bridge at datum 15.82 ft lower. Apr. 9, 1931, to Sept. 30, 1961, graphic water-stage recorder 700 ft upstream from bridge at datum 15.75 ft lower, and Oct. 1, 1961, to June 17, 1964, graphic water-stage recorder at present site and datum.

AVERAGE DISCHARGE.--24 years (1904-28), 1,111 cfs (804,300 acre-ft per year); 38 years (1929-67), 825 cfs (597,300 acre-ft per year), adjusted for change in contents and evaporation from Camanche Reservoir since 1963. Storage and diversion by East Bay Municipal Utility District began in March 1929.

EXTREMES.--Maximum discharge during year, 3,140 cfs May 24-26 (gage height, 7.82 ft); minimum daily, 59 cfs Dec. 22-27, Feb. 7-23.
1904-67: Maximum discharge, 28,800 cfs Nov. 21, 1950 (gage height, 24.40 ft, site and datum then in use); no flow July 9, Aug. 15, 20-23, 1924.

REMARKS.--Records good. Flow regulated by Camanche Reservoir beginning December 1963 (see sta. no. 3223), Salt Springs Reservoir beginning March 1931 (see sta. no. 3135), Pardee Reservoir beginning March 1929 (see sta. no. 3200), several smaller reservoirs, and four powerplants. East Bay Municipal Utility District aqueducts are the largest of several diversions above the station. Maximum capacity is 511 cfs with Pardee Reservoir full. Records of water temperatures and suspended-sediment loads for the water year 1967 are published in Part 2 of this report. See schematic diagram for Mokelumne River basin.

COOPERATION.--Twenty-six discharge measurements and temperature record furnished by the East Bay Municipal Utility District.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	278	93	101	62	76	62	330	3,070	3,090	1,570	733	1,300
2	279	95	96	62	66	61	451	3,090	3,090	1,700	731	1,290
3	284	107	79	62	64	61	455	3,090	3,090	1,750	732	1,290
4	287	116	86	62	62	61	455	3,090	3,110	2,030	962	1,290
5	287	116	109	62	62	61	454	3,080	3,100	1,960	1,300	1,290
6	287	120	146	62	60	61	464	3,080	3,100	1,600	1,300	1,290
7	278	118	97	62	59	62	484	3,080	3,100	1,700	1,300	1,290
8	272	118	87	62	59	62	469	3,080	3,100	1,580	1,300	1,290
9	275	114	85	62	59	62	463	3,080	2,910	1,180	1,300	1,300
10	275	99	90	62	59	61	615	3,080	2,570	1,140	1,290	1,300
11	275	99	87	62	59	62	985	3,090	2,570	1,100	1,290	1,300
12	275	99	87	62	59	61	1,060	3,090	2,330	1,020	1,290	1,310
13	269	99	87	62	59	64	1,060	3,090	1,750	913	1,290	1,310
14	260	99	87	62	59	63	1,060	3,080	1,180	1,240	1,290	1,310
15	260	100	87	62	59	61	1,060	3,080	903	1,680	1,300	1,300
16	260	102	75	62	59	101	1,060	3,080	903	1,680	1,310	1,300
17	260	99	71	62	59	74	1,060	3,090	903	1,680	1,310	1,300
18	260	99	71	63	59	63	1,070	3,090	903	1,430	1,310	1,300
19	260	101	71	64	59	62	1,230	3,100	910	1,250	1,310	1,290
20	260	102	71	65	59	91	1,500	3,100	910	1,180	1,310	1,290
21	254	100	69	247	59	132	1,840	3,100	917	930	1,310	1,290
22	248	99	59	205	59	164	2,020	3,100	917	615	1,310	1,410
23	248	101	59	80	59	164	2,010	3,110	924	565	1,310	1,470
24	245	102	59	138	61	164	2,010	3,110	931	672	1,310	1,460
25	245	102	59	87	63	164	2,000	3,110	931	735	1,310	1,460
26	248	99	59	71	62	164	1,990	3,110	924	733	1,310	1,460
27	248	99	59	67	62	165	2,300	3,100	1,060	733	1,300	1,460
28	248	102	62	71	62	164	2,620	3,100	1,400	733	1,300	1,450
29	242	99	62	121	-----	164	2,840	3,100	1,400	733	1,300	1,450
30	160	99	62	131	-----	170	2,830	3,090	1,400	733	1,300	1,450
31	109	-----	62	127	-----	175	-----	3,090	-----	733	1,300	-----
TOTAL	7,936	3,097	2,441	2,591	1,703	3,106	38,245	95,830	54,326	37,298	38,318	40,300
MEAN	256	103	78.7	83.6	60.8	100	1,275	3,091	1,811	1,203	1,236	1,343
MAX	287	120	146	247	76	175	2,840	3,110	3,110	2,030	1,310	1,470
MIN	109	93	59	62	59	61	330	3,070	903	565	731	1,290
AC-FT	15,740	6,140	4,840	5,140	3,380	6,160	75,860	190,100	107,800	73,980	76,000	79,930
Mean †	261	162	718	740	1,059	1,156	2,000	3,163	3,277	1,696	659	418
Ac-ft†	16,070	9,640	44,120	45,510	58,330	71,080	119,000	194,500	195,000	104,300	40,530	24,890

Cal yr 1966: Total 151,776 Mean 416 Max 1,070 Min 59 Ac-ft 301,000 Mean † 408 Ac-ft † 295,300
Wtr yr 1967: Total 325,191 Mean 891 Max 3,110 Min 59 Ac-ft 645,000 Mean † 1,276 Ac-ft † 923,500

† Adjusted for change in contents and evaporation from Camanche Reservoir.

SAN JOAQUIN RIVER BASIN

749

11-3250. WOODBRIDGE CANAL AT WOODBRIDGE, CALIF.

LOCATION.--Lat 38°09'07", long 121°18'00", in SE¼ sec.34, T.4 N., R.6 E., on right bank at Woodbridge at point of diversion.

RECORDS AVAILABLE.--April 1926 to September 1967.

GAGE.--Graphic differential water-stage recorder and gate-opening recorder. Datum of gage is 32.18 ft above mean sea level (levels by East Bay Municipal Utility District). Prior to Mar. 15, 1931, water-stage recorder at site 0.2 mile downstream at different datum.

AVERAGE DISCHARGE.--41 years, 135 cfs (97,740 acre-ft per year).

EXTREMES.--1926-67: Maximum daily discharge, 482 cfs July 8, 1953; no flow for part of each year.

REMARKS.--Records good. Discharge computed from records of gate openings and effective head as shown by recorders. Canal diverts from Woodbridge Reservoir on Mokelumne River for irrigation south and west of Woodbridge. See schematic diagram for Mokelumne River basin.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	163	49					0	41	295	351	368	340
2	146	79					0	44	289	336	380	325
3	142	0					0	44	280	327	380	309
4	139	0					0	46	277	321	373	307
5	146	0					0	48	286	323	380	313
6	149	0					0	96	289	324	373	311
7	145	0					0	113	289	332	363	308
8	135	0					0	140	294	327	359	318
9	133	0					0	172	298	305	359	316
10	130	0					0	175	299	310	351	307
11	130	0					0	182	303	324	363	308
12	130	0					0	194	308	324	355	304
13	131	0					0	221	326	332	334	299
14	133	0					0	222	339	331	334	278
15	135	0					0	231	342	326	348	262
16	136	0					0	267	352	316	367	247
17	127	0					0	280	359	369	375	232
18	121	0					0	279	365	388	371	222
19	122	0					0	281	362	377	363	221
20	133	0					0	286	363	377	348	221
21	134	0					0	280	367	365	355	211
22	132	0					0	286	374	349	359	205
23	132	0					0	280	373	324	371	205
24	132	0					0	320	376	333	372	189
25	131	0					27	324	379	357	364	186
26	131	0					40	329	382	377	353	189
27	135	0					41	315	383	369	347	185
28	137	0					40	299	387	353	350	186
29	136	0					40	303	370	337	348	184
30	131	0					41	297	347	333	348	173
31	91	---					---	296	---	331	340	---
Total	4,148	569	0	0	0	0	229	6,691	10,053	10,548	11,156	7,661
Mean	134	190	0	0	0	0	7.63	216	335	340	360	255
Max	163	49	0	0	0	0	41	329	387	388	380	340
Min	91	0	0	0	0	0	0	41	277	305	334	173
Ac-ft	8,230	113	0	0	0	0	454	13,270	19,900	20,920	22,130	15,200

Cal yr 1966: Total 53,546.0 Mean 147 Max 368 Min 0 Ac-ft 106,200
Wtr yr 1967: Total 50,542.9 Mean 138 Max 388 Min 0 Ac-ft 100,300

SAN JOAQUIN RIVER BASIN

11-3255. MOKELUMNE RIVER AT WOODBRIDGE, CALIF.

LOCATION.--Lat 38°09'30", long 121°18'10", in NE $\frac{1}{4}$ sec.34, T.4 N., R.6 E., on left bank at Woodbridge, 0.3 mile downstream from county highway bridge, and 0.4 mile downstream from dam and canal intake of Woodbridge Irrigation District.

DRAINAGE AREA.--661 sq mi.

RECORDS AVAILABLE.--May 1924 to September 1967 (low-water records only 1924-25).

GAGE.--Graphic water-stage recorder. Datum of gage is 14.9 ft above mean sea level (levels by East Bay Municipal Utility District). May 1924 to July 1928, 100 ft downstream from bridge at datum 4 ft higher; July 1928 to March 1931, 400 ft downstream from bridge at same datum.

AVERAGE DISCHARGE.--38 years (1929-67), since start of diversion through East Bay Municipal Utility District aqueduct, 620 cfs (448,900 acre-ft per year).

EXTREMES.--Maximum discharge during year, 2,970 cfs May 3 (gage height, 17.72 ft); minimum daily, 16 cfs Jan. 6. 1924-67: Maximum discharge, 27,000 cfs Nov. 22, 1950 (gage height, 29.58 ft), from rating curve extended above 6,200 cfs on basis of contracted-opening measurement of maximum flow; minimum daily, 1.4 cfs Sept. 19, 20, 22, 1927.

REMARKS.--Records good. Concerning regulation and diversions see REMARKS for Mokelumne River below Camanche Dam; between Woodbridge and Camanche Dam there are many additional diversions for irrigation, including Woodbridge Canal (see sta. no. 3250). See schematic diagram for Mokelumne River basin. Records of chemical analyses and water temperatures at or near this gaging station for the water year 1967 are published in Part 2 of this report.

COOPERATION.--Three discharge measurements furnished by East Bay Municipal Utility District.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	33	132	68	36	93	36	100	2,450	2,570	795	188	753
2	54	164	78	36	57	34	230	2,750	2,590	1,010	196	787
3	70	202	69	36	45	33	311	2,870	2,600	1,070	203	789
4	66	234	64	36	41	25	335	2,840	2,600	1,190	238	784
5	56	186	78	17	39	24	342	2,850	2,570	1,440	547	782
6	52	121	110	16	38	30	366	2,780	2,590	1,180	678	771
7	53	113	90	28	38	33	387	2,760	2,610	914	694	768
8	59	93	76	31	36	35	378	2,710	2,580	1,240	696	771
9	90	87	66	32	36	22	370	2,650	2,570	899	705	787
10	102	86	66	32	36	27	441	2,650	2,240	539	679	814
11	83	77	60	32	36	40	626	2,650	2,080	644	681	809
12	82	74	57	34	36	43	829	2,640	2,080	522	732	822
13	84	71	56	34	36	40	865	2,580	1,620	504	732	829
14	75	71	62	35	35	39	870	2,570	1,090	404	737	859
15	68	76	56	36	35	38	880	2,580	645	332	715	861
16	63	102	55	35	35	52	880	2,530	549	1,020	696	895
17	67	77	52	34	35	71	880	2,510	511	1,020	683	894
18	65	77	45	34	62	50	880	2,520	487	980	685	899
19	67	83	43	33	37	38	880	2,520	476	684	719	897
20	68	116	43	41	38	29	950	2,530	469	639	741	892
21	66	89	42	96	36	23	1,200	2,530	450	552	737	888
22	61	82	41	289	35	18	1,300	2,530	404	299	710	940
23	59	57	21	134	34	18	1,750	2,520	412	187	703	1,030
24	59	65	58	82	34	20	1,750	2,510	415	123	687	1,060
25	53	64	38	106	39	20	1,750	2,510	421	150	717	1,100
26	50	64	37	62	35	20	1,750	2,500	421	196	724	1,060
27	51	62	36	50	31	22	1,800	2,520	413	200	739	1,060
28	50	73	36	50	27	24	2,100	2,520	709	259	751	1,050
29	50	68	36	62	---	27	2,450	2,530	793	201	735	1,060
30	48	65	36	105	---	39	2,450	2,530	787	219	726	1,080
31	97	---	36	109	---	98	---	2,540	---	224	726	---
Total	2,001	2,941	1,711	1,793	1,115	1,068	30,100	80,680	40,752	20,240	19,900	26,791
Mean	64.5	98.0	55.2	57.8	39.8	34.5	1,003	2,603	1,358	653	542	893
Max	102	234	110	289	93	98	2,450	2,870	2,610	1,440	751	1,100
Min	33	57	21	16	27	18	100	2,450	404	128	188	753
Ac-ft	3,970	5,830	3,390	3,560	2,210	2,120	59,700	160,000	80,830	40,150	39,470	53,140
Cal yr 1966 : Total	65,394		Mean	179	Max	966	Min	17	Ac-ft	129,700		
Wtr yr 1967 : Total	229,092		Mean	628	Max	2,370	Min	16	Ac-ft	454,400		

SAN JOAQUIN RIVER BASIN

751

11-3263. DRY CREEK ABOVE SUTTER CREEK, NEAR IONE, CALIF.

LOCATION.--Lat 38°24'54", long 120°54'18", in SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.32, T.7 N., R.10 E., on right bank 1,000 ft downstream from bridge on State Highway 104 and 4.6 miles northeast of Ione.

DRAINAGE AREA.--70.9 sq mi.

RECORDS AVAILABLE.--February 1960 to September 1967. Prior to October 1961, published as "near Ione."

GAGE.--Digital water-stage recorder. Altitude of gage is 500 ft (from topographic map). Prior to Dec. 27, 1965, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--7 years, 34.7 cfs (25,120 acre-ft per year).

EXTREMES.--Maximum discharge during year, 6,350 cfs Jan. 22 (gage height, 10.97 ft); no flow for many days.
1960-67: Maximum discharge, 7,300 cfs Jan. 6, 1965 (gage height, 11.30 ft), from rating curve extended above 1,800 cfs on basis of slope-area measurement of maximum flow; no flow for many days in each year.

REMARKS.--No known regulation or diversion above station.

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

REVISIONS (water year).--1965 report: 1963(M).

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	5.5	9.4	476	20	256	118	24	3.6	0.20	
2		0	41	9.0	257	20	179	106	24	3.4	.20	
3		0	98	8.9	171	19	143	96	22	3.2	.10	
4		0	24	9.0	125	19	140	87	20	3.0	0	
5		0	127	9.7	100	18	202	80	38	2.8	0	
6		0	556	9.0	83	17	572	75	37	2.7	0	
7		0	202	8.0	70	16	1,410	68	27	2.5	0	
8		0	78	7.8	61	16	481	62	22	2.4	0	
9		0	48	7.6	55	16	296	61	20	2.4	0	
10		0	47	7.4	50	15	285	86	18	2.4	0	
11		0	36	7.3	45	57	464	63	17	2.2	0	
12		0	30	7.8	41	151	350	56	16	2.0	0	
13		0	26	7.5	40	447	245	51	16	1.8	0	
14		0	24	7.4	39	405	193	46	15	1.6	0	
15		0	21	7.6	35	221	204	43	14	1.5	0	
16		0	19	7.6	33	692	168	41	13	1.4	0	
17		0	17	7.0	32	566	190	37	12	1.3	0	
18		0	16	6.8	30	283	635	35	11	1.2	0	
19		0	15	6.5	28	182	630	34	11	1.3	0	
20		.20	14	9.2	26	132	429	32	9.3	1.3	0	
21		9.7	13	1,080	24	105	490	31	8.5	1.1	0	
22		11	13	1,730	23	89	500	28	7.4	1.1	0	
23		6.2	12	284	23	89	420	27	6.5	1.0	0	
24		3.7	12	374	22	76	425	26	6.0	1.0	0	
25		2.7	12	329	30	65	342	25	5.5	.90	0	
26		2.2	12	242	26	60	269	24	5.2	.80	0	
27		1.9	11	362	22	55	230	23	4.9	.80	0	
28		3.4	11	217	21	54	200	22	4.5	.60	0	
29		5.3	11	718	-----	57	161	22	4.4	.50	0	
30		4.4	10	646	-----	66	135	22	3.9	.50	0	
31		-----	9.7	1,010	-----	205	-----	21	-----	.30	0	-----
Total	0	50.70	1,571.2	7,052.5	1,988	4,233	10,644	1,548	443.1	52.60	0.50	0
Mean	0	1.69	50.7	228	71.0	137	355	49.9	14.8	1.70	0.02	0
Max	0	11	556	1,730	476	692	1,410	118	38	3.6	0.20	0
Min	0	0	5.5	6.5	21	15	135	21	3.9	0.30	0	0
Ac-ft	0	101	3,120	13,990	3,940	8,400	21,110	3,070	879	104	1.0	0

Cal yr 1966: Total 6,218.9 Mean 17.0 Max 556 Min 0 Ac-ft 12,340
Wtr yr 1967: Total 27,583.6 Mean 75.6 Max 1,730 Min 0 Ac-ft 54,710

SAN JOAQUIN RIVER BASIN

11-3270. SUTTER CREEK NEAR SUTTER CREEK, CALIF.

LOCATION.--Lat 38°23'45", long 120°46'50", in SE $\frac{1}{4}$ sec.5, T.6 N., R.11 E., on left bank 1.3 miles east of town of Sutter Creek.

DRAINAGE AREA.--48.1 sq mi.

RECORDS AVAILABLE.--October 1935 to December 1941, March 1960 to September 1967. Monthly discharge only for some periods, published in WSP 1315-A.

GAGE.--Digital water-stage recorder. Altitude of gage is 1,220 ft (from topographic map). Prior to Oct. 29, 1937, staff gage 15 ft downstream at datum 4.00 ft lower. Oct. 29, 1937, to Dec. 7, 1938, staff gage at present site at datum 4.00 ft lower. Dec. 8, 1938, to December 1941 and March 1960 to Jan. 4, 1966, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--13 years (1935-41, 1960-67), 31.4 cfs (22,730 acre-ft per year).

EXTREMES.--Maximum discharge during year, 1,990 cfs Jan. 22 (gage height, 4.74 ft); no flow for many days. 1935-41, 1960-67: Maximum discharge, 5,770 cfs Jan. 31, 1963 (gage height, 6.27 ft), from rating curve extended above 900 cfs on basis of slope-area measurement at gage height 4.77 ft; no flow at times in each year except 1938 and 1941.

REMARKS.--Small diversion above station for irrigation.

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

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	5.7	6.6	243	16	113	120	39	12	3.6	1.1
2		0	72	6.6	142	16	110	111	38	11	3.5	1.2
3		0	85	6.6	104	15	103	105	35	10	3.4	1.4
4		0	21	6.6	82	15	120	100	32	10	3.2	1.4
5		0	99	7.0	69	15	153	95	52	9.9	2.8	1.5
6		0	313	6.8	59	14	287	99	46	9.7	2.8	1.5
7		0	109	6.6	50	14	606	87	36	9.4	2.8	1.5
8		0	63	6.2	43	14	262	81	32	9.4	2.7	1.5
9		0	37	6.1	39	13	180	80	30	9.4	2.7	1.5
10		0	40	6.4	36	13	155	133	29	8.5	2.7	1.5
11		0	28	6.5	32	23	178	93	27	7.9	2.6	1.5
12		0	23	6.6	30	101	169	84	27	7.6	2.4	1.5
13		0	19	6.6	28	350	146	77	26	7.3	2.2	1.5
14		0	17	6.6	29	301	129	71	25	7.1	2.0	1.5
15		0	15	6.4	26	120	135	67	24	6.8	2.1	1.5
16		9.3	13	6.3	25	673	120	64	22	6.7	1.8	1.5
17		7.3	12	6.1	23	435	126	60	22	6.3	1.6	1.5
18		4.4	11	6.1	22	202	294	56	21	5.9	1.5	1.7
19		4.1	11	6.1	21	140	271	53	21	5.8	1.5	1.9
20		10	10	7.8	20	109	234	50	20	5.5	1.6	1.9
21		16	9.5	450	19	91	260	48	19	5.4	1.6	1.7
22		15	9.1	662	18	79	263	46	19	5.1	1.7	1.7
23		8.8	8.7	129	18	77	265	43	17	4.9	1.6	1.9
24		5.5	8.3	140	17	69	297	41	17	4.7	1.6	2.1
25		4.0	8.2	123	24	59	233	40	16	4.6	1.5	2.1
26		3.4	8.2	103	21	54	193	38	15	4.3	1.5	1.9
27		2.9	7.4	114	18	50	186	37	14	4.3	1.4	1.9
28		3.6	7.0	97	17	54	167	37	13	4.3	1.4	1.7
29		5.5	7.0	279	- - - - -	56	145	36	13	4.4	1.3	1.3
30		4.7	7.0	317	- - - - -	53	130	34	12	4.0	1.2	1.5
31		- - - - -	7.0	584	- - - - -	99	- - - - -	35	- - - - -	3.8	1.1	- - - - -
Total	0	104.5	1091.1	3128.6	1275	3340	6030	2121	757	216.0	65.4	47.9
Mean	0	3.48	35.2	101	45.5	108	201	68.4	25.2	6.97	2.11	1.60
Max	0	16	313	662	243	673	606	133	52	12	3.6	2.10
Min	0	0	5.7	6.1	17	13	103	34	12	3.8	1.1	1.10
Ac-ft	0	207	2160	6310	2530	6620	11950	4210	1500	428	130	95
Cal yr 1966 : Total	4,272.10	Mean	11.7	Max	313	Min	0	Ac-ft	8,470			
Wtr yr 1967 : Total	18,176.50	Mean	49.8	Max	673	Min	0	Ac-ft	36,050			

11-3295. DRY CREEK NEAR GALT, CALIF.

LOCATION.--Lat 38°14'44", long 121°13'03", in NE¼ sec.32, T.5 N., R.7 E., on left bank of main channel 35 ft downstream from county road bridge, 2 miles downstream from Coyote Creek, and 4 miles east of Galt.

DRAINAGE AREA.--329 sq mi.

RECORDS AVAILABLE.--October 1926 to September 1933, October 1944 to September 1967. Monthly figures only for some periods, published in WSP 1315-A.

GAGE.--Graphic water-stage recorder. Datum of gage is 52.83 ft above mean sea level (levels by East Bay Municipal Utility District). Dec. 4, 1926, to Sept. 30, 1933, at site 4 miles downstream at different datum. Oct. 1, 1944, to Sept. 30, 1945, at site across channel at datum 3.00 ft higher. Oct. 1, 1945, to June 15, 1966, across channel at same datum.

AVERAGE DISCHARGE.--30 years, 109 cfs (78,910 acre-ft per year); median of yearly mean discharges, 67 cfs (48,500 acre-ft per year).

EXTREMES.--Maximum discharge during year, 10,500 cfs Jan. 22 (gage height, 14.27 ft); no flow for several months.

1926-33, 1944-67: Maximum discharge, 24,000 cfs Apr. 3, 1958 (gage height, 15.28 ft); no flow for several months in each year.

REMARKS.--Records fair. Many small diversions above station for irrigation. Total storage of many small reservoirs, 1,000 acre-ft and total number of acres irrigated, approximately 500.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	1.2	8.8	2,600	80	696	389	62	2.1	10	0
2		0	2.3	8.2	1,040	76	472	338	59	4.3	9.7	0
3		0	222	7.8	671	73	392	333	63	3.8	4.3	0
4		0	163	7.8	521	65	351	317	54	1.7	4.0	0
5		0	299	7.9	440	55	402	303	55	2.2	3.5	.10
6		0	1,490	7.9	391	48	518	298	111	1.6	3.8	0
7		0	1,100	7.6	357	41	3,420	281	95	1.9	4.8	0
8		0	323	6.5	325	45	2,030	222	82	.40	1.8	0
9		0	194	5.9	311	42	943	187	68	.40	.30	0
10		0	169	5.4	298	40	622	227	43	1.4	0	.30
11		0	145	4.3	285	88	1,710	229	44	1.4	0	0
12		0	106	3.9	278	248	1,080	190	40	2.2	0	0
13		0	82	1.8	271	886	651	174	51	3.4	0	0
14		0	64	.20	164	1,260	506	159	40	3.7	0	0
15		0	50	0	131	649	476	148	40	4.3	0	0
16		0	40	0	122	1,730	480	138	43	2.9	0	0
17		0	34	0	121	2,950	415	129	41	5.4	0	0
18		0	28	0	114	1,050	1,010	121	45	5.9	0	0
19		0	24	0	109	633	1,530	110	39	4.5	0	0
20		1.1	23	0	102	471	1,150	108	28	5.0	0	0
21		14	20	1,160	96	400	1,030	103	28	10	0	0
22		11	17	6,550	94	362	1,610	95	25	8.4	0	0
23		5.0	15	1,190	92	349	1,140	88	14	8.2	0	0
24		1.0	14	1,180	91	335	1,150	83	9.9	7.2	0	0
25		0	13	1,170	107	211	940	73	11	7.6	0	0
26		0	13	567	124	208	674	55	5.0	6.6	0	0
27		0	11	655	102	211	562	53	8.4	5.3	0	0
28		0	9.5	521	90	198	520	53	8.1	2.5	0	0
29		0.80	10	1,580	---	188	463	57	6.9	2.5	0	0
30		3.8	11	2,020	---	169	426	51	4.8	5.8	0	0
31		---	9.7	3,600	---	387	---	47	---	7.0	0	---
Total	0	36.70	4,702.7	20,277.00	9,447	13,543	27,469	5,159	1,234.1	129.60	42.20	0.40
Mean	0	1.22	152	654	337	437	916	166	41.1	4.18	1.36	.01
Max	0	14	1,490	6,550	2,600	2,950	3,420	389	111	10	10	30
Min	0	0	1.2	0	90	40	351	47	4.8	0.40	0	0
Ac-ft	0	73	9,330	40,220	18,740	26,370	54,483	10,230	2,450	257	84	0.8

Cal yr 1966: Total 16,031.90 Mean 43.9 Max 1,490 Min 0 Ac-ft 31,800
 Wtr yr 1967: Total 82,045.70 Mean 225 Max 6,550 Min 0 Ac-ft 162,700

Peak discharge (base, 1,500 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-06	2300	13.22	2,640	3-17	0500	13.57	4,220
1-22	0200	14.27	10,500	4-07	1530	13.96	4,960
1-24	2000	12.55	2,090	4-11	0900	12.94	2,140
1-31	1900	13.60	4,400	4-19	0900	12.34	1,840
3-14	0430	11.72	1,660	4-22	0530	12.44	1,880

SAN JOAQUIN RIVER BASIN

11-3330. CAMP CREEK NEAR SOMERSET, CALIF.

LOCATION.--Lat 38°39'26", long 120°39'46", in SW $\frac{1}{4}$ sec.4, T.9 N., R.12 E., on right bank 0.2 mile upstream from mouth, 1.3 miles northeast of Somerset, and 5.6 miles south of Camino.

DRAINAGE AREA.--62.6 sq mi.

RECORDS AVAILABLE.--February to May 1924 (published as "near Pleasant Valley"), October 1954 to September 1967.

GAGE.--Digital water-stage recorder. Altitude of gage is 1,820 ft (from topographic map). Feb. 1 to May 31, 1924, staff gage at site 0.2 mile upstream at different datum. October 1954 to Jan. 16, 1967, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--13 years (1954-67), 74.2 cfs (53,720 acre-ft per year), adjusted for storage, diversion, and evaporation from Jenkinson Lake.

EXTREMES.--Maximum discharge during year, 1,200 cfs Mar. 16 (gage height, 6.96 ft); minimum daily, 2.3 cfs Oct. 1, 2.
1924, 1954-67: Maximum discharge, 6,040 cfs Dec. 23, 1964 (gage height, 12.50 ft); minimum, 0.5 cfs Aug. 1-3, 1961.

REMARKS.--Records good except those for Aug. 15 to Sept. 30, which are fair. Flow partly regulated since January 1955 by Jenkinson Lake (usable capacity, 40,570 acre-ft). Water is released from Jenkinson Lake through Camino conduit for irrigation and domestic supply in North Fork Cosumnes and South Fork American River basins. Some water is released from Jenkinson Lake down Camp Creek for irrigation downstream from station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	
1	2.3	2.9	7.2	3.7	67	6.6	239	165	240	95	14	6.8	
2	2.3	2.9	24	3.5	42	6.5	211	169	202	82	14	6.6	
3	2.4	2.9	23	3.5	32	20	192	185	176	76	13	6.6	
4	2.6	2.9	9.2	3.5	24	46	199	225	170	66	13	6.6	
5	2.6	2.9	44	4.1	19	53	217	257	211	60	12	7.4	
6	2.6	3.5	186	3.9	16	54	255	269	223	54	12	7.1	
7	2.6	4.5	93	3.5	15	54	363	314	209	50	12	6.6	
8	2.6	3.7	24	3.5	13	52	275	406	202	46	12	6.4	
9	2.6	3.7	15	3.5	12	52	239	538	197	42	11	6.2	
10	2.4	4.5	13	3.3	11	53	234	732	198	39	11	6.1	
11	2.4	4.5	11	3.3	10	94	251	625	191	36	11	5.9	
12	2.6	4.3	9.0	3.5	9.9	128	224	529	182	34	11	5.8	
13	2.7	4.1	8.2	3.5	9.5	150	214	454	169	31	10	5.7	
14	2.7	4.1	7.4	3.3	12	116	220	411	160	29	9.9	5.5	
15	2.7	4.3	7.0	3.3	9.9	101	235	428	155	28	9.6	5.5	
16	2.7	12	6.7	3.3	9.2	587	208	522	155	27	9.4	5.4	
17	2.7	9.0	6.3	3.2	8.7	994	213	635	173	25	9.2	5.4	
18	2.7	6.5	6.0	3.1	8.4	716	287	691	168	24	9.0	6.7	
19	2.9	5.1	5.8	3.0	8.1	537	270	672	163	23	8.6	7.1	
20	2.9	10	5.8	3.4	7.7	431	233	662	149	21	8.4	6.3	
21	2.9	13	5.4	32	7.4	380	217	690	138	20	8.2	5.8	
22	2.9	12	5.1	131	7.2	363	220	689	125	20	8.1	5.5	
23	3.0	7.0	4.9	33	7.2	405	216	640	113	19	8.1	5.6	
24	3.0	5.4	4.9	39	7.0	401	229	574	102	18	7.9	5.7	
25	3.0	4.9	4.9	49	8.9	354	209	502	99	17	8.1	5.8	
26	2.9	4.9	4.9	44	8.2	314	193	439	95	17	10	5.6	
27	2.9	4.7	4.7	74	7.2	278	212	388	87	16	11	5.4	
28	2.9	6.3	4.5	52	6.8	284	213	350	75	16	8.3	5.1	
29	2.9	9.0	4.5	138	-----	287	190	311	65	16	7.7	4.9	
30	2.9	6.3	4.5	85	-----	255	174	282	74	15	7.3	4.9	
31	2.9	-----	4.1	130	-----	262	-----	262	-----	14	7.0	-----	
TOTAL	84.2	171.8	564.0	875.9	404.3	7,834.1	6,852	14,016	4,666	1,076	311.8	180.0	
MEAN	2.72	5.73	18.2	28.3	14.4	253	228	452	156	34.7	10.1	6.00	
MAX	3.0	13	186	138	67	994	363	732	240	95	14	7.4	
MIN	2.3	2.9	4.1	3.0	6.8	6.5	174	165	65	14	7.0	4.9	
AC-FT	167	341	1,120	1,740	802	15,540	13,580	27,800	9,250	2,130	618	357	
(+)	-1,955	+238	+4,898	+6,010	+7,611	+5,42	-20	+183	-220	-3,131	-3,441	-2,972	
(+)	1,728	578	149	184	167	184	173	600	1,726	3,302	3,431	2,945	
(+)	130	27	12	5	57	51	204	201	333	321	196		
Mean ++	1.14	20.7	100	129	156	265	231	463	184	42.9	15.1	8.84	
Ac-ft++	70	1,230	6,180	7,940	8,640	16,320	13,740	28,790	10,960	2,540	929	526	
Cal yr 1966: Total	7,097.6	Mean	19.4	Max	195	Min	1.9	Ac-ft	14,080	Mean +	44.0	Ac-ft +	31,880
Wtr yr 1967: Total	37,036.1	Mean	101	Max	994	Min	2.3	Ac-ft	73,460	Mean +	135	Ac-ft +	97,960

+ Change in contents, in acre-feet, in Jenkinson Lake, furnished by Bureau of Reclamation.

* Diversion, in acre-feet, from Jenkinson Lake, furnished by Bureau of Reclamation.

++ Evaporation, in acre-feet, from Jenkinson Lake, furnished by Bureau of Reclamation.

Adjusted for change in contents, evaporation, and diversion from Jenkinson Lake.

Note.--For months when inflow to the lake was small and other quantities were large, discordant figures of net runoff may appear.

11-3335. NORTH FORK COSUMNES RIVER NEAR EL DORADO, CALIF.

LOCATION.--Lat 38°35'20", long 120°50'38", in SW $\frac{1}{4}$ sec.35, T.9 N., R.10 E., on downstream side of left abutment of county road bridge, 0.8 mile north of Nashville, 2.6 miles upstream from mouth, and 6 miles south of El Dorado.

DRAINAGE AREA.--205 sq mi.

RECORDS AVAILABLE.--August 1911 to December 1941, October 1948 to September 1967.

GAGE.--Graphic water-stage recorder. Altitude of gage is 840 ft (from topographic map). Prior to October 1933, staff gage at site 1.5 miles upstream at different datum. October 1933 to December 1941, graphic water-stage recorder at site 1,000 ft upstream at different datum.

AVERAGE DISCHARGE.--49 years, 200 cfs (144,800 acre-ft per year).

EXTREMES.--Maximum discharge during year, 3,500 cfs Mar. 16 (gage height, 8.34 ft); minimum daily, 6.9 cfs Nov. 3.

1911-41, 1948-67: Maximum discharge, 15,800 cfs Dec. 23, 1955 (gage height, 14.8 ft), from rating curve extended above 7,500 cfs on basis of slope-area measurement of maximum flow; no flow for part of 1924, 1926, 1931, 1933-34.

REMARKS.--Records fair. Flow partly regulated since January 1955 by Jenkinson Lake (usable capacity, 40,570 acre-ft). Camino conduit above the station diverts water out of the basin (see REMARKS for sta. no. 3330 Camp Creek near Somerset). Numerous small diversions above station for irrigation and domestic use.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.8	8.2	79	51	1070	140	690	493	682	296	51	18
2	7.8	7.8	207	49	653	133	594	482	630	269	48	18
3	7.8	6.9	350	43	498	142	538	506	582	263	46	18
4	3.7	8.2	122	47	416	164	550	550	550	238	45	20
5	7.4	9.6	413	47	359	172	642	618	554	218	45	21
6	9.6	14	1180	48	320	172	877	670	594	206	44	26
7	8.2	19	827	40	296	170	1770	706	594	192	41	24
8	7.4	25	367	45	281	168	1000	855	578	180	38	22
9	8.2	22	228	40	266	168	765	1100	562	170	38	16
10	7.4	22	190	39	255	168	706	1570	546	158	36	7.8
11	8.2	24	166	39	245	235	950	1410	530	143	34	11
12	8.2	26	140	39	242	472	755	1260	514	138	32	12
13	8.2	28	127	39	242	827	678	1150	494	130	33	13
14	9.6	28	119	38	255	617	642	1060	474	123	31	18
15	10	34	106	38	238	449	682	1040	461	114	27	11
16	12	56	99	38	225	1860	618	1130	446	103	23	9.6
17	11	61	95	36	203	2610	614	1320	443	101	22	9.6
18	12	44	89	35	200	1740	1140	1460	446	95	22	11
19	13	36	85	35	192	1330	1010	1480	443	88	23	22
20	12	59	83	39	182	1080	860	1410	431	84	22	23
21	12	89	79	764	174	934	815	1440	416	79	17	13
22	14	79	76	1500	166	880	835	1480	401	74	15	14
23	14	50	73	363	162	940	840	1430	359	71	16	12
24	15	31	70	468	156	934	934	1300	335	70	13	16
25	15	24	67	563	164	825	810	1180	329	68	21	22
26	14	21	64	506	160	750	702	1070	326	65	22	21
27	14	18	60	759	147	678	694	982	308	63	27	22
28	13	24	55	508	143	666	678	885	299	60	26	16
29	12	63	59	1500	- - - -	706	594	815	273	59	22	14
30	11	88	56	1350	- - - -	626	534	760	263	59	20	18
31	9.6	- - - -	54	1930	- - - -	706	- - - -	702	- - - -	58	19	- - - -
Total	328.1	1025.7	5785	11046	7920	21467	23417	32319	13868	4045	925	5040
Mean	10.6	34.2	187	356	283	692	781	1043	462	130	29.8	16.8
Max	15	89	1180	1930	1070	2610	1770	1570	682	296	51	26
Min	7.4	6.9	54	35	143	138	534	482	263	58	16	7.8
Ac-ft	651	2030	11470	21910	15710	42580	46450	64100	27510	8020	1830	1000
Cal yr 1966: Total	35381.8		Mean 98.3	Max 1180	Min 3.8	Ac-ft 71170						
Wtr yr 1967: Total	122649.8		Mean 336	Max 2610	Min 6.9	Ac-ft 243300						

Peak discharge (base, 1,800 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-06	1930	7.31	2,160	3-16	2130	8.34	3,500
1-22	0130	8.30	3,390	4-07	0300	7.41	2,470
1-29	1100	7.00	2,090	5-10	1300	6.66	1,820
1-31	1130	7.62	2,680				

SAN JOAQUIN RIVER BASIN

11-3342. MIDDLE FORK COSUMNES RIVER NEAR SOMERSET, CALIF.

LOCATION.--Lat 38°37'29", long 120°42'02", in NW¼NW¼ sec.19, T.9 N., R.12 E., on left bank 1,000 ft downstream from county road bridge, 0.2 mile downstream from Perry Creek, and 1.8 miles southwest of Somerset.

DRAINAGE AREA.--107 sq mi.

RECORDS AVAILABLE.--October 1957 to September 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is 1,647.95 ft above mean sea level, datum of 1929.

AVERAGE DISCHARGE.--10 years, 143 cfs (103,500 acre-ft per year); median of yearly mean discharges, 94 cfs (68,100 acre-ft per year).

EXTREMES.--Maximum discharge during year, 2,670 cfs Mar. 16 (gage height, 10.08 ft); minimum daily, 5.3 cfs Oct. 1.

1957-67: Maximum discharge, 11,800 cfs Feb. 1, 1963 (gage heights, 16.20 ft, in gage well, 18.4 ft from floodmarks), from rating curve extended above 2,500 cfs on basis of computation of maximum flow over dam; minimum, 1.7 cfs probably Sept. 11, 1961.

Flood of Dec. 23, 1955, reached a stage of 18.1 ft, from floodmarks (discharge, 11,600 cfs).

REMARKS.--Records good. No storage above station. Small diversion above station into South Fork Cosumnes River basin through Garabaldi ditch for irrigation and industrial use.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.3	6.1	67	67	832	171	451	309	523	246	43	25
2	5.8	6.1	309	65	610	167	412	313	478	227	42	25
3	6.1	5.8	433	63	499	169	382	342	436	209	41	25
4	6.1	5.8	193	62	424	167	400	380	439	187	40	24
5	5.9	5.8	547	63	388	158	395	421	511	169	39	25
6	5.9	7.7	1250	55	362	155	553	436	475	155	38	25
7	5.9	19	750	55	348	152	644	520	460	140	36	24
8	5.9	14	422	58	342	152	472	692	451	127	36	24
9	5.9	11	309	53	338	152	424	872	460	119	35	24
10	5.8	9.5	271	54	338	153	421	1120	460	112	34	23
11	5.6	9.0	231	54	335	195	454	935	442	105	34	23
12	5.6	9.0	199	53	335	310	406	804	430	97	34	23
13	5.6	9.0	180	52	342	320	390	728	409	91	32	23
14	5.8	9.0	164	51	348	258	392	716	398	86	31	22
15	5.9	9.8	143	51	309	234	409	804	398	82	30	22
16	6.1	66	139	51	291	1590	370	990	415	80	30	22
17	6.4	46	130	49	269	2120	430	1150	460	75	29	22
18	6.4	28	121	48	256	1340	526	1180	445	71	29	25
19	6.2	21	116	48	244	935	487	1160	415	67	29	29
20	6.2	76	114	62	227	788	424	1220	390	65	28	25
21	6.2	74	107	525	215	700	433	1310	390	63	28	24
22	6.1	70	101	644	204	656	424	1330	380	60	28	23
23	6.4	40	96	271	197	704	436	1240	355	58	28	22
24	6.4	29	90	300	190	652	439	1140	340	56	28	24
25	6.2	24	85	273	199	596	388	1020	340	52	28	22
26	6.1	22	83	273	183	547	358	900	330	51	28	20
27	6.1	21	71	358	175	496	382	832	307	50	29	19
28	6.1	34	75	352	171	538	358	768	289	49	27	18
29	6.1	172	76	916	---	517	332	700	278	48	27	18
30	6.2	89	72	1080	---	481	318	628	262	46	26	18
31	6.2	---	68	1270	---	514	---	585	---	45	25	---
Total	186.5	948.6	7016	7376	8971	16,087	12,710	25,550	12,166	3,088	991	687
Mean	6.02	31.6	226	238	320	519	424	824	406	99.6	32.0	22.9
Max	6.4	172	1250	1270	832	2120	644	1330	523	246	43	23
Min	5.3	5.8	67	48	171	152	318	309	262	45	25	18
Ac-ft	370	1880	13,920	14,630	17,790	31,910	25,210	50,680	24,130	6,120	1,970	1,360

Cal yr 1966: Total 32179.6 Mean 88.2 Max 1250 Min 5.0 Ac-ft 63,830
 Wtr yr 1967: Total 95777.1 Mean 262 Max 2120 Min 5.3 Ac-ft 190,000

Peak discharge (base, 700 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-3	0200	7.30	820	4-06	2230	7.68	990
12-6	1430	9.85	2,460	4-17	2230	7.18	772
1-22	0100	8.55	1,480	5-10	0730	8.25	1,290
1-30	2030	8.85	1,680	5-21	2100	8.65	1,540
3-16	2200	10.08	2,670				

SAN JOAQUIN RIVER BASIN

757

11-3343. SOUTH FORK COSUMNES RIVER NEAR RIVER PINES, CALIF.

LOCATION.--Lat 38°33'25", long 120°47'32", in SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.8, T.8 N., R.11 E., on left bank 2.4 miles upstream from mouth and 2.7 miles west of River Pines.

DRAINAGE AREA.--64.3 sq mi.

RECORDS AVAILABLE.--October 1957 to September 1967.

GAGE.--Digital water-stage recorder. Altitude of gage is 1,220 ft (from topographic map). Prior to Apr. 1, 1964, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--10 years, 42.5 cfs (30,770 acre-ft per year); median of yearly mean discharges, 22 cfs (15,900 acre-ft per year).

EXTREMES.--Maximum discharge during year, 2,540 cfs Jan. 22 (gage height, 6.67 ft); no flow Oct. 1 to Nov. 7. 1957-67: Maximum discharge, 5,540 cfs Feb. 1, 1963 (gage height, 10.90 ft), from rating curve extended above 1,900 cfs on basis of slope-area measurement at gage height 9.90 ft; no flow at times in most years.

REMARKS.--Records good. Amount of water imported from Middle Fork Cosumnes River through Garabaldi ditch has been negligible because of leakage in the ditch.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0	0	12	9.4	402	25	173	215	58	17	5.5	1.5
2	0	0	78	9.1	251	24	154	206	56	17	5.3	1.4
3	0	0	128	9.0	186	23	146	201	52	16	5.0	1.5
4	0	0	41	8.9	144	23	183	202	49	15	4.7	1.5
5	0	0	214	9.8	118	22	252	207	67	15	4.4	1.6
6	0	0	494	9.1	97	22	568	219	58	15	4.0	1.8
7	0	0	190	8.4	83	21	906	212	50	14	3.9	1.7
8	0	.80	93	8.7	71	20	433	216	47	14	3.8	1.5
9	0	1.1	58	8.2	63	20	313	220	45	14	3.9	1.5
10	0	.70	50	8.3	57	19	282	300	43	13	3.8	1.5
11	0	.70	40	8.3	53	36	330	248	41	13	3.4	1.5
12	0	.70	34	8.3	48	193	289	215	40	12	3.2	1.6
13	0	.90	29	8.2	45	318	257	189	39	12	2.8	1.5
14	0	1.1	25	8.0	47	209	232	165	37	11	2.6	1.5
15	0	1.6	22	7.8	42	160	245	151	35	11	2.4	1.4
16	0	7.3	20	7.7	40	1,220	219	142	33	10	2.3	1.3
17	0	6.6	18	7.7	38	806	255	133	33	10	2.1	1.4
18	0	3.7	17	7.4	36	412	513	121	31	9.8	2.1	1.6
19	0	3.2	16	7.4	34	285	425	110	27	9.0	2.0	1.9
20	0	11	15	8.9	31	224	334	101	26	8.7	1.8	1.7
21	0	19	14	585	30	188	385	92	26	8.5	1.8	1.5
22	0	20	13	849	29	158	377	84	25	8.2	1.8	1.6
23	0	13	13	218	28	158	391	79	23	8.0	1.8	1.7
24	0	8.4	12	267	27	146	456	73	23	7.8	1.7	2.2
25	0	6.5	12	238	33	128	366	68	22	7.5	1.7	2.1
26	0	5.6	12	198	30	115	311	64	21	7.0	1.6	1.9
27	0	5.2	11	235	28	102	311	62	20	6.7	1.6	1.8
28	0	6.7	10	193	26	102	295	59	20	6.8	1.6	1.6
29	0	10	10	557	-----	109	257	58	19	6.8	1.7	1.5
30	0	10	10	480	-----	104	231	54	18	6.3	1.6	1.5
31	0	-----	9.7	814	-----	188	-----	54	-----	5.9	1.5	-----
TOTAL	0	143.80	1,720.7	4,802.6	2,117	5,580	9,889	4,520	1,084	336.0	87.4	48.3
MEAN	0	4.79	55.5	155	75.6	180	330	146	36.1	10.8	2.82	1.61
MAX	0	20	494	849	402	1,220	906	300	67	17	5.5	2.2
MIN	0	0	9.7	7.4	26	19	146	54	18	5.9	1.5	1.3
AC-FT	0	285	3,410	9,530	4,200	11,070	19,610	8,970	2,150	666	173	96

CAL YR 1966: TOTAL 7,007.80 MEAN 19.2 MAX 494 MIN 0 AC-FT 13,900
WAT YR 1967: TOTAL 30,328.80 MEAN 83.1 MAX 1,220 MIN 0 AC-FT 60,160

Peak discharge (base, 600 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-06	1445	4.11	992	3-16	1715	5.35	1,840
1-22	0015	6.67	2,540	4-06	2330	5.20	1,760
1-29	0830	4.14	1,060	4-18	0030	3.94	933
1-31	0930	4.37	1,210				

SAN JOAQUIN RIVER BASIN

11-3350. COSUMNES RIVER AT MICHIGAN BAR, CALIF.

LOCATION.--Lat 38°30'00", long 121°02'45", in SE $\frac{1}{4}$ sec.36, T.8 N., R.8 E., on downstream side of midstream pier of highway bridge at Michigan Bar, 5.5 miles southwest of Latrobe, and 12 miles downstream from confluence of North and Middle Fork Cosumnes River.

DRAINAGE AREA.--536 sq mi.

RECORDS AVAILABLE.--October 1907 to September 1967. Monthly discharge only for some periods, published in WSP 1315-A.

GAGE.--Graphic water-stage recorder. Datum of gage is 168.09 ft above mean sea level, datum of 1929. Prior to July 10, 1930, staff gage at same site and datum.

AVERAGE DISCHARGE.--60 years, 479 cfs (346,800 acre-ft per year).

EXTREMES.--Maximum discharge during year, 15,900 cfs Jan. 22 (gage height, 9.56 ft); minimum daily, 5.5 cfs Oct. 2.

1907-67: Maximum discharge, 42,000 cfs Dec. 23, 1955 (gage height, 14.59 ft); no flow for parts of many years.

Flood in March 1907 reached a stage of 16.3 ft (discharge unknown).

REMARKS.--Records good. Flow partly regulated by Jenkinson Lake (usable capacity, 40,570 acre-ft). Camino conduit above the station diverts water out of the basin (see REMARKS for station Camp Creek near Somerset). Numerous small diversions above station for irrigation and domestic use. Records of chemical analyses, water temperatures, and suspended-sediment loads for the water year 1967 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.2	9.7	201	139	3380	335	1830	1260	1320	550	84	46
2	5.5	9.1	590	133	2200	330	1460	1220	1180	514	79	50
3	6.2	9.1	1310	128	1650	322	1320	1230	1070	490	77	46
4	6.2	9.1	576	123	1320	340	1280	1280	1020	425	75	42
5	6.8	9.1	1410	123	1100	345	1600	1360	1180	390	75	43
6	7.0	13	3750	126	970	340	2190	1480	1270	355	73	44
7	9.1	17	2490	113	887	335	5630	1530	1140	322	68	44
8	11	20	1170	113	824	330	2770	1800	1090	302	68	39
9	8.8	30	762	113	779	330	2020	2230	1070	282	66	39
10	8.2	23	634	107	762	326	1980	3140	1070	266	64	39
11	8.2	21	538	105	730	557	2770	2800	1020	246	64	34
12	8.2	20	442	105	714	1240	2170	2350	990	229	61	34
13	8.2	19	390	105	706	2980	1770	2090	950	215	59	36
14	7.9	19	355	102	730	2310	1600	1930	914	204	57	32
15	7.0	19	318	100	676	1330	1760	1990	887	187	56	35
16	7.9	35	290	100	655	5000	1630	2300	896	177	53	29
17	8.2	134	274	97	578	6700	1590	2690	960	174	50	29
18	8.5	93	258	97	538	4100	3360	2960	960	161	50	29
19	8.5	68	243	93	514	3040	2890	2870	932	158	47	30
20	8.8	120	236	102	478	2440	2280	2800	887	149	46	39
21	8.5	267	226	3630	442	2090	2500	2950	851	139	46	36
22	8.8	240	215	6860	415	1910	2600	3060	824	131	44	35
23	8.8	161	204	1480	395	1980	2420	2950	770	126	46	30
24	8.8	95	190	2120	390	2010	2640	2710	714	120	44	30
25	9.7	68	184	2550	425	1760	2250	2480	698	113	44	33
26	9.1	54	177	1610	420	1580	1860	2180	690	110	43	34
27	9.7	47	168	2390	370	1450	1770	1980	648	105	43	31
28	9.7	61	152	1660	355	1360	1720	1820	613	97	50	31
29	9.7	129	155	4520	---	1550	1520	1650	571	95	47	30
30	9.7	252	155	4220	---	1360	1380	1510	544	95	44	30
31	9.1	---	146	5860	---	1850	---	1380	---	90	42	---
Total	258.0	2071.1	18209	39124	23403	51930	64560	65980	27729	7017	1765	1079
Mean	8.32	69.0	587	1262	836	1675	2152	2128	924	226	56.9	36.0
Max	11	267	3750	6860	3380	6700	5630	3140	1320	550	84	50
Min	5.5	9.1	146	93	355	322	1280	1220	544	90	42	29
Ac-ft	512	4110	36120	77600	46420	103000	128100	130900	55000	13920	3500	2140

Cal yr 1966: Total 89826.9 Mean 246 Max 3750 Min 5.2 Ac-ft 178200
Wtr yr 1967: Total 303125.1 Mean 830 Max 6960 Min 5.5 Ac-ft 601200

Peak discharge (base, 4,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-6	1900	7.30	6,190	1-31	1330	7.72	7,670
1-22	0200	9.56	15,900	3-16	2400	8.07	8,980
1-24	2400	6.65	4,450	4-7	0400	7.95	8,510
1-29	1200	7.45	6,760	4-18	0400	6.83	4,920

SAN JOAQUIN RIVER BASIN

759

11-3360. COSUMNES RIVER AT MCCONNELL, CALIF.

LOCATION.--Lat 38°21'29", long 121°20'34", in sec.20, T.6 N., R.6 E., on downstream side of bridge on U.S. Highway 99, 0.2 mile south of McConnell, 1 mile downstream from Deer Creek, and 7 miles north of Galt.

DRAINAGE AREA.--724 sq mi.

RECORDS AVAILABLE.--October 1941 to September 1967 in reports of Geological Survey. Monthly figures only for some periods, published in WSP 1315-A. Gage heights only during high-water periods 1931-40, in reports of California Department of Water Resources.

GAGE.--Graphic water-stage recorder. Gage is set to datum of Corps of Engineers.

AVERAGE DISCHARGE.--26 years, 548 cfs (396,700 acre-ft per year); median of yearly mean discharges, 410 (296,800 acre-ft per year).

EXTREMES.--Maximum discharge during year, 23,800 cfs Jan. 22 (gage height, 45.19 ft); no flow for many days. 1943-67: Maximum discharge, 54,000 cfs Dec. 23, 1955 (gage height, 46.26 ft), from rating curve extended above 36,000 cfs; no flow for parts of each year.

REMARKS.--Records fair. Diversions for irrigation of 2,100 acres between stations at Michigan Bar and at McConnell. Records of suspended-sediment loads for the water year 1967 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	250	142	6060	355	1940	1360	1320	456	30	
2		0	334	132	3000	345	1400	1280	1180	459	25	
3		0	1700	126	1980	333	1090	1260	1040	432	24	
4		0	1120	123	1510	342	974	1300	938	382	20	
5		0	992	115	1240	355	1240	1370	979	360	18	
6		0	3720	115	1060	343	1240	1490	1260	323	16	
7		0	5040	115	946	340	5100	1530	1060	292	14	
8		0	1790	104	878	335	3580	1770	1000	260	12	
9		0	965	107	822	330	2050	2190	974	240	10	
10		0	709	102	782	325	1600	2970	966	225	8.0	
11		0	606	100	746	403	2970	3110	946	200	6.0	
12		0	494	99	710	852	2920	2540	914	181	5.0	
13		0	422	99	694	3240	1890	2190	882	158	4.0	
14		0	379	97	690	3880	1570	1960	834	154	3.0	
15		0	343	93	680	2070	1530	1910	814	144	2.0	
16		0	305	93	610	3260	1690	2120	806	137	1.0	
17		5.5	285	91	567	10100	1360	2510	834	120	0	
18		114	263	90	531	6440	3370	2790	882	107	0	
19		87	259	88	504	3280	3640	2830	850	105	0	
20		110	248	91	477	2220	3030	2790	794	97	0	
21		188	235	843	441	1780	2580	2900	742	100	0	
22		425	228	14300	411	1540	3540	3070	722	74	0	
23		386	212	4370	392	1480	3190	3020	680	65	0	
24		206	202	2060	380	1670	3340	2760	627	63	0	
25		132	194	4360	411	1410	2830	2560	596	61	0	
26		86	182	1890	465	1250	2200	2280	592	50	0	
27		75	172	2860	414	1110	1950	2030	567	46	0	
28		69	158	2190	380	982	1930	1840	531	44	0	
29		80	152	4120	---	1140	1670	1670	501	40	0	
30		212	154	6510	---	1000	1470	1500	465	40	0	
31		---	150	7140	---	1240	---	1360	---	37	0	---
Total	0	2175.5	22263	52765	27781	53765	68884	66260	25295	5462	193	0
Mean	0	72.5	718	1702	992	1734	2296	2137	843	176	6.39	0
Max	0	425	5040	14300	6060	10100	5100	3070	1320	459	30	0
Min	0	0	150	88	380	325	974	1260	465	37	0	0
Ac-ft	0	4320	44170	104700	55100	106600	136600	131400	50170	10830	393	0

Cal yr 1966: Total 92,371.4 Mean 253 Max 5,040 Min 0 Ac-ft 183,200
 Wtr yr 1967: Total 324,353.5 Mean 990 Max 14,300 Min 0 Ac-ft 644,300

Peak discharge (base, 3,600 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-07	0500	40.83	7,000	3-17	1600	42.49	11,600
1-22	1430	45.19	23,800	4-07	1400	41.06	6,670
1-25	0800	39.86	5,700	4-18	1400	38.90	4,560
2-01	0200	41.68	8,010	5-10	2100	38.02	3,720
3-14	0630	38.65	4,670				

SAN JOAQUIN RIVER BASIN

11-3365.8. MORRISON CREEK NEAR SACRAMENTO, CALIF.

LOCATION.--Lat 38°29'55", long 121°27'06", in SW¼SE¼ sec.32, T.8 N., R.5 E., on right bank 750 ft upstream from Florin Road, 1.6 miles upstream from Elder Creek, and 2 miles south of Sacramento city limits.

DRAINAGE AREA.--48.6 sq mi.

RECORDS AVAILABLE.--July 1959 to September 1967.

GAGE.--Digital water-stage recorder. Datum of gage is 7.60 ft above mean sea level, datum of 1929. Prior to June 29, 1960, graphic water-stage recorder at site 650 ft downstream at datum 1.55 ft higher. June 29, 1960, to Sept. 12, 1965, graphic water-stage recorder at site 475 ft upstream at datum 2.71 ft higher.

AVERAGE DISCHARGE.--8 years, 16.0 cfs (11,580 acre-ft per year).

EXTREMES.--Maximum discharge during year, 1,500 cfs Jan. 21 (gage height, 7.36 ft), from rating curve extended above 560 cfs as explained below; minimum daily, 1.2 cfs Aug. 27.

1959-67: Maximum discharge, 1,500 cfs Jan. 21, 1967 (gage height, 7.36 ft), from rating curve extended above 560 cfs on basis of float measurement by Corps of Engineers at gage height 7.09 ft; no flow at times in 1960, 1962, 1965.

REMARKS.--Records fair prior to July 1, poor thereafter. No regulation or diversion above station. Summer flow is sustained by waste water from domestic and industrial use.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	4.5	7.6	26	3.1	198	4.6	29	7.3	12	3.6	8.2	3.5
2	4.1	7.4	112	3.0	119	4.6	17	6.8	9.4	2.7	7.7	2.4
3	3.8	7.9	106	5.8	79	4.4	14	6.6	5.8	2.3	10	2.2
4	4.0	6.8	76	6.0	41	3.8	11	6.2	5.2	2.7	10	3.7
5	3.9	3.2	256	6.2	22	3.2	11	6.2	7.6	2.3	4.8	5.3
6	4.5	6.8	326	5.9	17	3.0	93	4.7	7.3	2.7	2.6	5.9
7	5.4	43	118	3.2	13	3.6	103	3.8	6.8	2.7	6.2	5.6
8	3.0	17	51	2.9	11	6.8	47	5.1	6.4	2.6	9.4	5.6
9	1.3	9.3	39	5.4	7.9	6.6	18	5.5	6.0	1.9	9.8	5.0
10	5.8	7.9	37	6.0	6.2	6.7	48	7.8	5.8	2.5	10	4.2
11	9.5	6.8	24	6.2	5.2	42	110	8.2	5.8	4.8	12	5.2
12	7.5	3.4	20	6.6	4.4	61	53	7.3	21	5.0	9.7	5.2
13	6.8	2.6	18	6.5	4.6	99	27	6.6	11	5.6	8.8	5.8
14	7.6	5.2	15	4.0	4.6	79	18	6.4	6.6	5.6	14	5.8
15	6.3	23	13	3.4	4.4	47	33	7.0	5.6	5.0	15	5.8
16	5.0	76	12	5.5	4.2	317	17	7.0	4.8	5.0	17	4.8
17	4.4	23	8.5	6.1	4.4	268	33	7.3	3.4	4.8	16	4.4
18	9.9	8.8	7.6	5.7	4.0	63	61	7.6	2.7	6.6	14	5.8
19	7.6	67	9.3	5.9	3.8	29	43	7.3	3.6	6.8	6.3	6.0
20	5.9	173	9.6	47	3.8	20	26	6.2	4.6	7.2	3.7	6.0
21	6.8	132	9.1	656	4.4	15	82	5.4	5.0	8.1	9.2	5.8
22	5.9	63	8.8	991	4.2	11	53	6.6	5.0	6.7	9.4	6.2
23	3.6	27	5.7	168	3.6	16	45	7.9	4.8	6.0	8.5	5.2
24	5.6	12	4.9	510	4.0	9.3	52	8.2	4.6	5.9	7.0	5.0
25	7.9	7.9	4.8	231	8.2	7.8	33	8.5	4.6	7.2	7.5	5.0
26	7.4	5.2	4.3	115	12	6.8	20	8.5	4.4	7.5	2.7	5.0
27	7.4	4.1	7.0	106	5.6	7.3	15	7.0	4.6	7.6	1.2	5.2
28	7.6	50	7.1	184	4.6	8.6	12	6.8	4.4	6.8	5.4	5.0
29	7.9	49	7.5	430	-----	8.9	8.2	7.3	4.4	3.4	7.8	5.2
30	8.2	20	7.0	398	-----	39	6.6	6.2	4.6	2.3	4.1	3.4
31	8.5	-----	4.1	445	-----	31	-----	7.3	-----	6.0	3.0	-----
TOTAL	187.6	937.1	1,354.3	4,378.4	604.1	1,233.0	1,138.8	210.6	187.8	149.9	261.0	149.2
MEAN	6.05	31.2	43.7	141	21.6	39.8	38.0	6.79	6.26	4.84	8.42	4.97
MAX	9.9	173	326	991	198	317	110	8.5	21	8.1	17	6.2
MIN	1.3	2.6	4.1	2.9	3.6	3.0	6.6	3.8	2.7	1.9	1.2	2.2
AC-FT	372	1,860	2,690	8,680	1,200	2,450	2,260	418	373	297	518	296

CAL YR 1966: TOTAL 13,270.8 MEAN 36.4 MAX 991 MIN 1.2 AC-FT 26,320
 WAT YR 1967: TOTAL 10,791.8 MEAN 29.6 MAX 991 MIN 1.2 AC-FT 21,410

Peak discharge (base, 160 cfs)

Peak discharge (base, 160 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-06	1515	3.06	231	12-02	1645	3.69	350	1-24	0545	5.20	695	3-30	1815	2.84	168
11-16	0245	3.51	312	12-05	1730	4.52	540	1-31	0130	5.24	704	4-06	1330	3.26	229
11-20	2115	4.19	458	1-21	2145	7.36	1,500	3-16	0815	4.68	540	4-18	1615	2.75	160

SAN JOAQUIN RIVER BASIN

761

11-3370. CONTRA COSTA CANAL NEAR OAKLEY, CALIF.

LOCATION.--Lat 37°59'45", long 121°42'00", in NE $\frac{1}{4}$ sec.25, T.2 N., R.2 E., at Pumping Plant No. 1, 0.7 mile east of Oakley, and 2.6 miles northwest of Knightsen.

RECORDS AVAILABLE.--February 1950 to September 1967.

GAGE.--Recording flow meters on pumps. Prior to Jan. 1, 1953, graphic water-stage recorder at site 3.2 miles downstream at datum 121.72 ft above mean sea level (levels by Bureau of Reclamation).

AVERAGE DISCHARGE.--17 years, 81.0 cfs (58,840 acre-ft per year).

EXTREMES.--1950-67: Maximum daily discharge, 218 cfs June 30, July 2, 1966; minimum daily, 8.0 cfs Jan. 12, 1952.

REMARKS.--Water is diverted from Sacramento-San Joaquin Delta by way of Old River, Rock Slough, and a dredged channel. A series of four pumping plants lifts the water 115 ft into canal. Water is used for municipal, agricultural, and industrial purposes. The canal is a part of the Central Valley project.

COOPERATION.--Records of daily discharge furnished by Bureau of Reclamation and reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	152	121	73	91	73	86	60	71	111	139	134	126
2	153	122	61	90	71	81	62	65	93	135	138	121
3	139	123	71	80	77	79	53	74	89	125	133	121
4	137	123	77	83	76	78	55	68	93	119	136	101
5	131	122	69	84	76	75	56	76	86	126	135	126
6	132	99	66	73	74	76	52	74	86	128	132	143
7	128	106	69	84	77	66	50	74	86	134	126	140
8	115	107	81	96	75	70	50	72	82	132	138	144
9	118	102	74	88	80	65	50	83	102	137	137	140
10	120	105	73	83	73	69	56	83	96	137	138	138
11	124	100	72	64	75	69	54	80	99	137	138	137
12	122	99	68	86	73	55	50	76	105	140	132	137
13	113	100	74	78	75	49	60	81	101	140	130	141
14	111	134	82	85	81	57	60	87	115	139	138	142
15	116	100	82	83	81	61	64	87	114	137	141	137
16	113	114	86	84	80	55	59	96	107	125	141	141
17	121	106	86	83	83	55	60	114	114	117	141	136
18	139	116	76	86	89	67	61	106	119	117	141	127
19	134	95	76	90	82	67	68	99	116	125	139	130
20	129	90	70	89	88	62	61	84	112	130	138	123
21	125	86	79	67	88	56	62	109	110	132	131	131
22	132	92	76	73	86	56	61	111	113	127	135	125
23	132	95	84	92	81	58	61	111	120	134	135	122
24	133	92	81	84	81	64	60	117	121	124	134	119
25	132	90	82	79	78	64	71	115	120	130	132	118
26	134	90	79	77	88	59	79	116	117	133	131	111
27	124	87	72	77	90	52	64	113	112	140	124	112
28	126	84	79	74	86	58	72	116	121	134	128	122
29	118	76	85	67	-----	58	74	117	124	132	123	123
30	130	81	82	64	-----	59	62	113	132	132	129	118
31	126	-----	86	71	-----	60	-----	119	-----	132	128	-----
Total	3,959	3,057	2,370	2,515	2,237	1,986	1,805	2,907	3,216	4,069	4,155	3,852
Mean	128	102	76.5	81.1	79.9	64.1	60.2	93.8	107	131	134	128
Max	153	134	86	96	90	86	78	119	132	140	141	144
Min	111	76	61	64	71	49	50	65	82	117	123	101
Ac-ft	7,863	6,063	4,701	4,983	4,437	3,939	3,575	5,766	6,379	8,071	8,241	7,640
Cal yr 1966: Total	44,530		Mean	122	Max	218	Min	40	Ac-ft	88,325		
Wtr yr 1967: Total	36,128		Mean	99.0	Max	153	Min	49	Ac-ft	71,663		

SAN JOAQUIN RIVER BASIN

11-3375. MARSH CREEK NEAR BYRON, CALIF.

LOCATION.--Lat 37°52'25", long 121°43'35", in Los Meganos Grant, on right bank 40 ft downstream from highway bridge on Marsh Creek road, 1.2 miles upstream from Marsh Creek Dam, and 5.0 miles west of Byron, Contra Costa County.

DRAINAGE AREA.--42.6 sq mi.

RECORDS AVAILABLE.--February 1953 to September 1967.

GAGE.--Graphic water-stage recorder and concrete control. Datum of gage is 177.87 ft above mean sea level, datum of 1929.

AVERAGE DISCHARGE.--14 years, 8.12 cfs (5,880 acre-ft per year); median of yearly mean discharges, 1.8 cfs (1,300 acre-ft per year).

EXTREMES.--Maximum discharge during year, 1,640 cfs Jan. 21 (gage height, 7.97 ft); no flow for several months. 1953-67: Maximum discharge, 3,880 cfs Jan. 31, 1963 (gage height, 11.62 ft), from rating curve extended above 880 cfs on basis of slope-area measurement at gage height 10.90 ft; maximum gage height, 12.98 ft Dec. 23, 1955; no flow for several months in each year.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	.60	112	6.6	41	39	5.5	.40		
2			0	.60	69	6.3	30	36	5.5	.10		
3			0	.60	49	6.3	25	32	6.3	0		
4			0	.60	38	6.3	23	30	6.3	0		
5			12	.60	30	5.8	22	27	6.3	0		
6			59	.50	25	5.5	50	26	6.1	0		
7			27	.50	22	5.5	64	23	6.1	0		
8			16	.40	20	5.3	51	23	6.3	0		
9			9.0	.40	18	4.7	39	22	5.3	0		
10			10	.50	16	5.1	58	21	5.5	0		
11			6.9	.50	14	18	74	20	4.9	0		
12			5.3	.50	13	82	47	20	4.9	0		
13			4.5	.50	13	97	40	19	5.3	0		
14			3.7	.40	11	55	36	16	4.5	0		
15			3.1	.40	11	29	48	13	3.9	0		
16			2.7	.40	11	192	40	13	3.9	0		
17			2.2	.40	10	72	69	12	3.4	0		
18			1.8	.30	9.4	46	99	11	2.8	0		
19			1.7	.30	9.0	35	87	10	3.1	0		
20			1.6	.60	8.3	28	60	10	3.1	0		
21			1.5	679	8.0	25	148	9.4	2.9	0		
22			1.2	348	7.7	22	175	8.6	2.7	0		
23			1.1	70	7.7	21	126	8.0	1.8	0		
24			1.0	250	8.0	18	104	7.7	1.1	0		
25			1.0	116	8.3	16	77	6.9	1.6	0		
26			.90	56	7.7	15	66	6.6	1.3	0		
27			.70	42	6.9	14	60	6.1	1.3	0		
28			.60	57	6.9	13	53	5.8	1.2	0		
29			.70	228	---	14	49	5.5	.90	0		
30			.70	364	---	45	43	5.5	.60	0		
31		-----	.60	259	---	68	---	5.3	---	0		-----
Total	0	0	176.50	2,478.60	569.9	982.4	1,904	498.4	11,440	.50	0	0
Mean	0	0	5.69	80.0	20.4	31.7	63.5	16.1	3.81	.02	0	0
Max	0	0	59	679	112	192	175	39	63	.40	0	0
Min	0	0	0	.30	6.9	4.7	22	5.3	.60	0	0	0
Ac-ft	0	0	350	4,920	1,130	1,950	3,780	989	227	1.0	0	0

Cal yr 1966: Total 658.3 Mean 1.80 Max 350 Min 0 Ac-ft 1,310
Wtr yr 1967: Total 6,724.7 Mean 18.4 Max 679 Min 0 Ac-ft 13,340

Peak discharge (base, 140 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
1-21	2300	7.97	1,640	3-30	1930	4.38	196
1-24	1000	5.68	560	4-10	2100	4.18	153
1-30	1130	5.93	658	4-17	2130	4.61	253
3-12	1400	4.53	231	4-22	0330	4.83	314
3-16	0930	5.24	437				

11-3414. SACRAMENTO RIVER NEAR MOUNT SHASTA, CALIF.

LOCATION.--Lat 41°15'56", long 122°18'32", in SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.33, T.40 N., R.4 W., on left bank 200 ft upstream from Stink Creek, 0.3 mile upstream from Southern Pacific Railroad bridge, and 3.3 miles south of Mount Shasta.

DRAINAGE AREA.--134 sq mi.

RECORDS AVAILABLE.--October 1959 to September 1967.

GAGE.--Digital water-stage recorder. Altitude of gage is 2,800 ft (from topographic map). Prior to July 1, 1966, graphic water-stage recorder at site 500 ft upstream at datum 4.26 ft higher.

AVERAGE DISCHARGE.--8 years, 243 cfs (175,900 acre-ft per year).

EXTREMES.--Maximum discharge during year, 2,720 cfs Nov. 20 (gage height, 6.38 ft); minimum daily, 48 cfs Oct. 1, 2.

1959-67: Maximum discharge, 12,200 cfs Dec. 22, 1964 (gage height, 12.6 ft, from floodmarks, present site and datum), from slope-area measurement of maximum flow; minimum, 37 cfs Sept. 6, 1962.

REMARKS.--Records good. No diversions or regulation above station. See schematic diagram for Pit and McCloud River basins. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	48	53	620	155	562	195	302	247	582	223	71	51
2	48	52	752	150	458	199	289	268	517	210	70	50
3	49	53	590	149	382	191	277	304	502	200	68	51
4	49	52	1,170	148	354	180	263	360	564	184	67	51
5	49	53	1,000	145	352	176	278	430	624	171	66	51
6	49	80	532	136	340	175	332	535	677	158	66	50
7	49	68	399	133	326	178	328	752	701	145	65	50
8	49	65	331	130	313	182	313	1,120	678	136	64	50
9	49	65	311	130	306	192	321	1,210	671	127	63	51
10	49	64	303	130	317	237	424	906	653	120	62	51
11	49	72	295	130	313	228	396	699	648	113	61	50
12	49	83	343	128	327	211	369	595	626	108	61	50
13	50	195	528	131	334	199	373	572	598	104	60	50
14	50	404	516	134	309	189	363	649	602	102	59	49
15	51	496	398	137	281	206	360	853	620	100	57	49
16	51	475	343	137	265	1,280	327	1,210	632	101	57	50
17	51	192	315	134	256	909	330	1,480	639	96	57	52
18	51	164	295	134	253	654	316	1,470	641	93	57	55
19	51	956	287	134	240	541	317	1,440	651	91	57	52
20	52	1,800	279	137	226	530	306	1,430	596	90	55	50
21	54	716	267	167	217	475	302	1,450	528	89	53	50
22	54	410	251	146	210	489	315	1,510	459	87	52	50
23	54	295	243	139	206	606	306	1,500	404	86	52	50
24	54	231	223	140	213	500	297	1,270	371	84	52	52
25	53	192	211	138	219	433	294	1,010	346	82	53	51
26	52	174	195	138	200	381	292	952	329	80	58	51
27	52	160	181	207	191	351	291	927	307	77	59	50
28	52	223	178	628	190	347	276	925	281	76	56	50
29	51	339	170	1,350	-----	326	268	844	260	78	53	50
30	52	307	164	826	-----	308	252	741	241	75	51	51
31	53	-----	159	708	-----	301	-----	641	-----	72	51	-----
TOTAL	1,574	8,489	11,849	7,329	8,160	11,369	9,477	28,300	15,948	3,558	1,833	1,518
MEAN	50.8	283	382	236	291	367	316	913	532	115	59.1	50.6
MAX	54	1,800	1,170	1,350	562	1,280	424	1,510	701	223	71	55
MIN	48	52	159	128	190	175	252	247	241	72	51	49
AC-FT	3,120	16,840	23,500	14,540	16,190	22,550	18,800	56,130	31,630	7,060	3,640	3,010

CAL YR 1966: TOTAL 90,980 MEAN 249 MAX 1,800 MIN 45 AC-FT 180,500
WAT YR 1967: TOTAL 109,404 MEAN 300 MAX 1,800 MIN 48 AC-FT 217,000

Peak discharge (base, 1,500 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-20	0100	6.38	2,720	3-16	1030	5.54	1,740
12-04	2400	5.65	1,850	5-08	2215	5.33	1,530
1-29	0545	5.57	1,770	5-22	2030	5.62	1,820

SACRAMENTO RIVER BASIN

11-3420. SACRAMENTO RIVER AT DELTA, CALIF.

LOCATION.--Lat 40°56'20", long 122°24'55", in NW¼ sec.35, T.36 N., R.5 W., on left bank 0.2 mile downstream from Dog Creek, 0.6 mile southeast of Delta, and 2.8 miles south of Lamaine.

DRAINAGE AREA.--425 sq mi.

RECORDS AVAILABLE.--October 1944 to September 1967. Monthly discharge only for some periods, published in WSP 1315-A.

GAGE.--Graphic water-stage recorder. Datum of gage is 1,075.00 ft above mean sea level (levels by Bureau of Reclamation).

AVERAGE DISCHARGE.--23 years, 1,156 cfs (836,900 acre-ft per year).

EXTREMES.--Maximum discharge during year, 17,400 cfs Dec. 5 (gage heights, 13.37 ft in gage well, 14.1 ft from floodmarks); minimum daily, 188 cfs Oct. 1, 3, 9-11.

1944-67: Maximum discharge, 38,800 cfs Dec. 22, 1964 (gage height, 20.10 ft), from rating curve extended above 19,000 cfs on basis of slope-area measurement at gage heights, 19.50 ft in gage well, 20.0 ft from floodmarks; minimum, 141 cfs Sept. 3-5, 1950.

REMARKS.--Records good. No regulation. Some minor diversions for irrigation above station. See schematic diagram for Pit and McCloud River basins. Records of chemical analyses and water temperatures for the water year 1967 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	183	197	2830	703	5000	1020	1700	1560	1960	703	323	254
2	191	200	5730	684	3640	1010	1650	1620	1780	668	324	250
3	183	200	5070	674	3030	980	1690	1730	1570	652	320	250
4	191	200	10400	662	2310	942	1740	1910	1630	603	316	254
5	191	200	10500	652	2310	916	2090	2170	1790	586	316	250
6	194	273	4680	613	2660	896	3670	2390	1850	565	313	246
7	194	271	3120	602	2480	896	3310	3020	1860	545	313	243
8	194	236	2340	591	2280	902	2780	4090	1890	530	310	243
9	188	229	2010	575	2130	922	2650	4700	1920	512	306	246
10	188	229	2120	570	2130	1640	3920	4000	1810	494	306	246
11	188	254	1980	565	2050	1650	4120	2960	1790	480	299	250
12	194	376	2130	560	2060	1440	3250	2460	1740	467	296	243
13	191	1010	2720	555	2050	1320	2960	2260	1630	458	292	240
14	194	2400	2360	555	1890	1340	2790	2380	1580	444	288	236
15	197	4770	2320	560	1720	1520	2550	2960	1610	436	285	236
16	200	3520	1970	560	1560	10600	2310	3860	1630	428	282	236
17	200	1220	1710	545	1470	6660	2790	4440	1650	449	282	243
18	197	864	1520	540	1420	4210	2680	4730	1620	424	273	268
19	197	3800	1400	540	1340	3280	2430	4480	1630	403	274	254
20	200	13000	1320	714	1260	4120	2260	4460	1510	408	274	243
21	200	5650	1220	1150	1200	3700	2130	4700	1390	400	271	236
22	203	3320	1140	896	1150	3360	2120	4840	1210	392	271	232
23	206	2070	1080	756	1130	5160	2130	4650	1100	384	268	232
24	206	1490	1000	793	1130	3890	2070	4090	1040	376	268	232
25	203	1200	954	712	1180	3120	2010	3340	974	368	271	229
26	200	1030	902	822	1090	2610	1990	2970	935	360	282	226
27	200	916	852	1450	1040	2280	1990	2880	883	356	302	222
28	200	1020	822	5380	1020	2140	1850	2770	828	352	273	222
29	200	1510	792	11000	- - - -	1920	1740	2590	774	360	263	222
30	197	1340	762	7390	- - - -	1840	1620	2260	732	343	260	226
31	197	- - - -	733	7830	- - - -	1770	- - - -	2000	- - - -	332	254	- - - -
Total	6,077	53,000	78,992	50,714	54,730	78,054	72,990	99,270	44,316	14,298	8,995	7,210
Mean	196	1767	2,548	1,636	1,955	2,518	2,433	3,202	1,477	461	290	240
Max	206	13,000	10,500	11,000	5,000	10,600	4,120	4,340	1,960	703	323	268
Min	183	197	738	540	1,020	896	1,620	1,560	732	332	254	222
Ac-ft	12,050	105,100	156,700	100,600	108,600	154,800	144,800	196,900	87,900	28,360	17,840	14,300

Cal yr 1966: Total 485,939 Mean 1,331 Max 13,000 Min 172 Ac-ft 963,900
 Wtr yr 1967: Total 568,546 Mean 1,558 Max 13,000 Min 183 Ac-ft 1,128,000

Peak discharge (base, 8,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-20	1300	12.92	15,900	01-29	0630	12.26	13,900
12-05	0030	13.37	17,400	03-16	1230	12.71	15,300

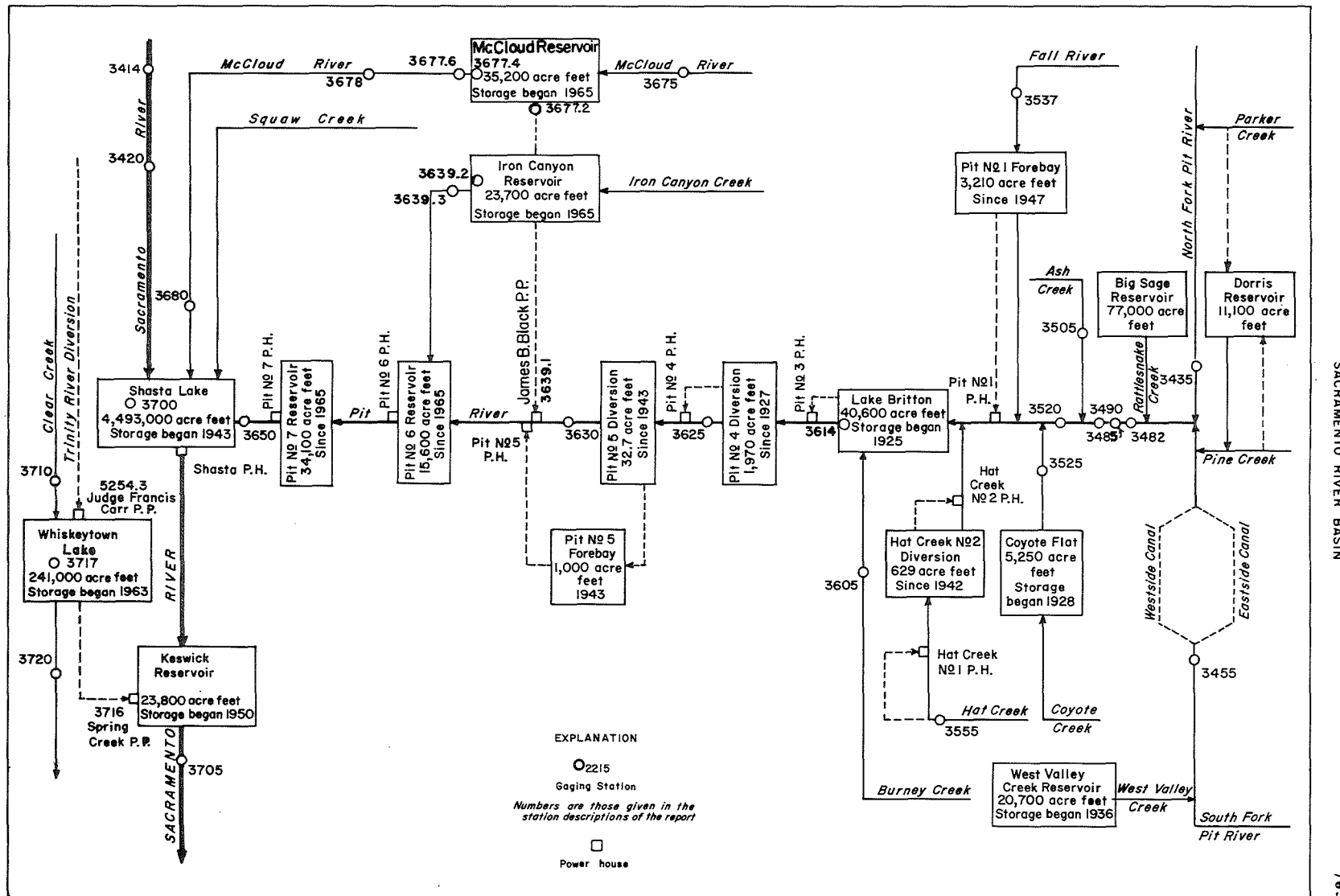


Figure 7.— Schematic diagram showing diversions and storage in Pit and McCloud river basins.

SACRAMENTO RIVER BASIN

11-3435. NORTH FORK PIT RIVER NEAR ALTURAS, CALIF.

LOCATION.--Lat 41°30', long 120°29', in NE $\frac{1}{4}$ sec.8, T.42 N., R.13 E., on right bank 1.5 miles downstream from Parker Creek, 3 miles northeast of Alturas, and 4 miles upstream from mouth.

DRAINAGE AREA.--203 sq mi, excluding Goose Lake basin.

RECORDS AVAILABLE.--May 1929 to November 1932, October 1957 to September 1967 (discontinued).

GAGE.--Graphic water-stage recorder. Datum of gage is 4,391 ft above mean sea level.

AVERAGE DISCHARGE.--13 years, 48.3 cfs (34,970 acre-ft per year).

EXTREMES.--Maximum discharge during year, 1,990 cfs Jan. 29 (gage height, 9.10 ft); minimum daily, 0.20 cfs for many days.

1929-32, 1957-67: Maximum discharge, 2,530 cfs Oct. 14, 1962 (gage height, 11.07 ft); no flow Apr. 29, 30, 1931, June 6, 1959.

REMARKS.--Records good above 2.0 cfs and fair below. Flow regulated by many small reservoirs (total capacity, 2,480 acre-ft). Diversions above gage for irrigation of 7,100 acres. See schematic diagram for Pit and McCloud River basins.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.50	0.60	34	12	336	34	38	109	235	22	0.40	0.90
2	.50	.60	86	9.8	193	32	38	104	208	29	.20	.80
3	.50	.60	209	11	121	27	38	95	164	6.6	.30	.60
4	.60	.60	54	11	92	23	33	90	133	7.8	2.4	.60
5	.60	.60	79	13	83	23	40	90	157	29	2.4	.80
6	.60	15	86	12	62	25	50	106	232	2.1	1.2	.80
7	.50	14	45	9.6	55	28	72	190	195	.60	.90	.80
8	.50	3.0	25	9.6	54	28	133	300	164	.60	.80	.80
9	.60	2.1	21	9.6	55	32	86	410	153	.50	.60	.60
10	.70	1.9	22	11	62	32	72	347	138	.30	.60	.60
11	.70	3.6	30	11	60	29	67	280	122	.30	.60	.60
12	.70	4.0	69	13	69	33	60	262	115	.30	.60	.60
13	.70	3.3	57	16	83	32	57	218	104	.20	.60	.80
14	.60	3.3	57	18	57	33	67	225	80	.20	.50	.90
15	.80	3.3	30	18	45	27	111	275	48	.20	.50	1.2
16	1.3	4.8	23	17	40	144	101	344	41	.20	.40	1.8
17	1.3	6.8	19	12	71	121	74	389	38	.20	.40	1.0
18	1.0	7.4	18	9.6	123	90	74	417	15	.20	.20	1.0
19	.80	7.4	17	11	65	81	79	404	20	.20	.20	.90
20	.80	53	17	13	39	64	76	353	25	.20	.20	.80
21	.60	25	15	14	32	57	65	341	23	.20	.20	.80
22	.60	16	11	14	30	57	69	353	24	.20	.20	.80
23	.80	11	13	14	30	55	84	220	41	.20	.30	.60
24	1.0	8.0	12	16	33	52	83	260	30	.30	.40	.80
25	1.0	19	12	15	32	50	125	232	15	.20	.50	.80
26	.80	21	9.6	14	30	47	133	190	17	.30	.50	.80
27	.70	27	9.6	19	30	40	147	159	15	6.1	.50	.80
28	.70	51	11	228	33	38	252	155	15	17	.90	.80
29	.60	104	11	1270	- - - - -	36	200	157	29	20	1.2	.30
30	.60	40	9.6	656	- - - - -	42	125	140	37	2.7	1.0	.30
31	.60	- - - - -	8.0	530	- - - - -	39	- - - - -	183	- - - - -	.40	1.0	- - - - -
Total	22.30	456.90	1119.8	3035.2	2020	1451	2649	7397	2638	147.30	20.70	23.70
Mean	0.72	15.2	36.1	97.9	72.1	46.8	88.3	239	87.9	4.75	0.67	0.79
Max	1.3	104	209	1270	336	144	252	417	235	29	2.4	1.8
Min	.50	.60	8.0	3.8	30	23	33	90	15	0.20	0.20	0.30
Ac-ft	44	906	2220	6020	4010	2880	5250	14670	5230	292	41	47
Cal yr 1966 Total	6480.3		Mean	17.8	Max	209	Min	0.10	Ac-ft	12850		
Wtr yr 1967 Total	20980.9		Mean	57.5	Max	1270	Min	0.20	Ac-ft	41620		

SACRAMENTO RIVER BASIN

767

11-3455. SOUTH FORK PIT RIVER NEAR LIKELY, CALIF.

LOCATION.--Lat 41°13'51", long 120°26'10", in NE¼SE¼ sec.11, T.39 N., R.13 E., on left bank 100 ft downstream from highway bridge, 1.4 miles downstream from West Valley Creek, and 3.5 miles east of Likely.

DRAINAGE AREA.--247 sq mi.

RECORDS AVAILABLE.--October 1928 to September 1967. Monthly discharge only for some periods, published in WSP 1315-A.

GAGE.--Graphic water-stage recorder. Datum of gage is 4,508 ft above mean sea level. Prior to Oct. 1, 1931, at site 1,000 ft downstream at different datum.

AVERAGE DISCHARGE.--39 years, 73.2 cfs (52,990 acre-ft per year).

EXTREMES.--Maximum discharge during year, 492 cfs June 6 (gage height, 4.26 ft); minimum daily, 2.4 cfs Nov. 19. 1928-67: Maximum discharge, 1,520 cfs Apr. 27, 1932 (gage height, 5.55 ft); minimum, 0.2 cfs Feb. 3, 1941.

REMARKS.--Records good except those for the winter period, which are fair. Flow regulated by West Valley Creek Reservoir beginning in May 1937 (usable capacity, 21,000 acre-ft). Diversions for irrigation of about 3,800 acres above station. See schematic diagram for Pit and McCloud River basins. Records of chemical analyses for the water year 1967 are published in Part 2 of this report.

REVISIONS (water years).--1965 report: 1932, 1938(M), 1952(M).

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	12	16	25	20	12	4.9	5.0	14	414	135	92	182
2	16	17	22	24	10	3.8	5.2	8.3	375	125	88	182
3	16	17	23	25	9.0	3.1	5.4	4.9	333	112	106	180
4	16	17	20	29	8.5	3.0	5.6	19	345	95	114	180
5	16	17	16	30	8.0	3.0	5.2	38	387	89	109	131
6	16	19	13	29	7.5	4.5	3.3	37	478	79	110	44
7	17	22	12	28	7.0	8.0	9.3	48	483	77	109	16
8	20	20	9.7	27	7.0	13	45	73	478	76	107	35
9	24	18	9.3	26	11	16	12	112	478	72	106	43
10	27	23	10	26	13	16	3.8	115	474	70	122	46
11	26	32	12	27	15	13	16	85	457	65	144	43
12	26	32	22	30	16	10	24	90	441	61	144	62
13	26	30	24	32	16	11	23	64	418	50	142	76
14	24	30	20	34	12	12	19	56	400	43	142	76
15	22	29	7.3	32	11	16	24	71	397	68	141	76
16	17	27	5.6	29	11	43	20	109	378	95	141	77
17	17	5.4	5.2	25	12	41	17	154	357	92	141	81
18	19	2.8	3.8	21	26	20	12	200	339	89	141	62
19	19	2.4	3.7	22	22	12	11	250	319	81	142	42
20	18	17	3.3	23	12	8.3	19	289	302	73	142	42
21	18	6.4	3.2	17	10	5.9	14	308	281	70	117	41
22	19	2.9	3.1	11	8.3	3.8	16	322	269	72	99	40
23	20	2.8	3.0	9.0	8.3	3.1	20	357	248	72	101	40
24	19	2.7	2.9	7.0	8.0	8.6	17	408	232	67	92	39
25	18	4.5	2.8	10	6.9	7.6	34	449	208	59	115	39
26	18	8.0	2.8	11	6.4	8.3	24	478	190	59	152	39
27	17	13	2.8	12	6.4	7.6	14	474	178	59	158	40
28	17	19	2.8	40	5.9	8.0	37	474	166	65	156	40
29	17	36	3.0	137	-----	7.3	34	453	158	69	170	39
30	17	29	4.0	52	-----	7.0	27	418	148	68	184	42
31	17	-----	10	29	-----	6.0	-----	404	-----	80	182	-----
Total	591	517.9	307.3	874.0	306.2	334.8	521.8	6,382.2	10,131	2,386	4,009	2,075
Mean	19.1	17.3	9.91	28.2	10.9	10.8	17.4	206	338	77.0	129	69.2
Max	27	36	25	137	26	43	45	478	483	135	184	182
Min	12	2.4	2.8	7.0	5.9	3.0	3.3	4.9	148	43	89	16
Ac-ft	1,170	1,030	610	1,730	607	664	1,030	12,660	20,090	4,730	7,950	4,120
Cal yr 1966 Total	18,181.1	Mean	49.8	Max	198	Min	2.4	Ac-ft	36,060			
Wtr yr 1967 Total	28,436.2	Mean	77.2	Max	483	Min	2.4	Ac-ft	56,400			

SACRAMENTO RIVER BASIN

11-3482. PIT RIVER NEAR ALTURAS, CALIF.

LOCATION.--Lat 41°29'00", long 120°37'46", in NW¼NE¼ sec.18, T.42 N., R.12 E., on left bank 500 ft downstream from Noble Creek and 4.7 miles west of Alturas.

DRAINAGE AREA.--1,080 sq mi, excluding Goose Lake basin.

RECORDS AVAILABLE.--September 1965 to September 1967.

GAGE.--Graphic water-stage recorder. Altitude of gage is 4,330 ft (from topographic map).

EXTREMES.--Maximum discharge during year, 3,070 cfs Jan. 29 (gage height, 12.91 ft), from rating curve extended above 1,500 cfs; minimum daily, 4.1 cfs Oct. 20, 21.

1965-67: Maximum discharge, 3,070 cfs Jan. 29, 1967 (gage height, 12.91 ft), from rating curve extended above 1,500 cfs; minimum daily, 4.1 cfs Oct. 20, 21, 1966.

REMARKS.--Records good. Flow regulated by many small reservoirs (total capacity, 144,000 acre-ft). Diversions for irrigation of 23,000 acres above station. See schematic diagram for Pit and McCloud River basins.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	24	4.2	95	39	1,220	90	64	286	859	206	68	83
2	25	4.2	145	40	745	92	64	240	977	172	80	87
3	25	4.4	426	40	361	76	61	195	989	153	82	94
4	24	6.2	187	40	258	62	55	185	929	139	82	104
5	22	7.1	170	37	222	64	55	170	854	121	85	141
6	22	37	212	36	178	66	67	180	883	118	90	151
7	21	40	143	35	149	70	92	250	933	104	97	164
8	21	27	105	34	137	73	204	410	955	97	103	135
9	20	19	80	40	129	82	172	470	902	99	103	116
10	12	19	74	50	137	92	162	520	837	103	104	103
11	6.2	25	83	66	139	88	137	566	763	103	94	94
12	5.7	29	195	73	158	94	147	597	705	90	90	92
13	5.6	47	191	79	168	97	174	609	655	78	90	90
14	5.4	41	185	85	145	97	216	475	595	57	94	90
15	5.1	38	130	87	116	92	256	427	480	57	99	92
16	4.7	77	91	83	101	214	267	485	420	66	110	95
17	4.5	170	74	68	110	284	187	557	407	64	99	104
18	4.3	121	62	56	204	267	153	624	374	76	103	101
19	4.2	78	55	50	176	235	158	669	344	82	94	104
20	4.1	111	50	55	127	205	137	734	350	82	99	104
21	4.1	107	60	47	99	185	121	773	354	104	106	101
22	4.2	76	53	37	90	150	119	792	286	103	103	95
23	4.2	53	45	30	83	139	137	768	258	88	87	92
24	4.4	47	50	35	88	125	143	686	214	73	87	90
25	4.4	45	48	40	90	103	187	720	210	70	83	87
26	4.4	61	47	60	87	88	326	672	191	75	85	85
27	4.2	56	42	90	83	83	293	705	176	66	83	83
28	4.2	90	38	380	83	80	374	710	189	73	85	82
29	4.2	256	37	1,910	---	75	465	717	214	76	87	76
30	4.2	159	37	2,010	---	85	339	727	204	72	85	72
31	4.2	---	38	1,500	---	76	---	741	---	67	85	---
Total	312.5	1,860.1	3,248	7,231	5,688	3,629	5,332	16,660	16,507	2,934	2,842	3,007
Mean	10.1	62.0	105	233	203	117	173	537	550	94.6	91.7	100
Max	25	256	426	2,010	1,220	284	465	792	989	206	110	164
Min	4.1	4.2	37	30	83	62	55	170	176	57	68	72
Ac-ft	620	3,690	6,440	14,340	11,280	7,200	10,580	33,040	32,740	5,320	5,640	5,960

Cal yr 1966: Total 27,375.6 Mean 75.0 Max 426 Min 4.1 Ac-ft 54,300
Wtr yr 1967: Total 69,250.6 Mean 190 Max 2,010 Min 4.1 Ac-ft 137,400

SACRAMENTO RIVER BASIN

769

11-3485. PIT RIVER NEAR CANBY, CALIF.

LOCATION (revised).--Lat 41°24'22", long 120°55'36", in NW¼SW¼ sec.10, T.41 N., R.9 E., on right bank at lower end of Warm Spring Valley, 4 miles southwest of Canby.

DRAINAGE AREA.--1,431 sq mi, excluding Goose Lake basin.

RECORDS AVAILABLE.--January 1904 to December 1905, May 1929 to September 1967 (1929-31 incomplete).

GAGE.--Digital water-stage recorder. Datum of gage is 4,266 ft above mean sea level. January 1904, to December 1905 staff gage and May 6, 1929, to Sept. 30, 1931, graphic water-stage recorder, at site 100 ft upstream at different datum. Oct. 1, 1931, to June 2, 1965, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--37 years (1905, 1931-67), 231 cfs (167,200 acre-ft per year).

EXTREMES.--Maximum discharge during year, 4,350 cfs Jan. 30 (gage height, 8.65 ft); minimum daily, 9.0 cfs Nov. 1-4.

1904-5, 1929-67: Maximum discharge observed, 13,000 cfs Mar. 8, 1904 (gage height, 15.0 ft, site and datum then in use); minimum, 0.1 cfs Apr. 29, Aug. 5, Sept. 18, 1934, Aug. 18-21, 1935.

REMARKS.--Records good. Flow regulated by many small reservoirs (total capacity now, about 144,000 acre-ft). Diversions for irrigation of about 39,000 acres above station. See schematic diagram for Pit and McCloud River basins. Records of chemical analyses, suspended-sediment loads, and water temperatures for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	17	9.0	270	64	2,280	175	175	582	852	285	47	59
2	17	9.0	300	63	1,670	180	164	498	918	180	14	50
3	17	9.0	360	61	1,070	168	153	468	967	229	19	46
4	17	9.0	490	59	643	141	142	420	1,020	258	19	44
5	18	9.5	735	56	468	127	136	375	1,020	265	30	43
6	19	13	390	51	387	123	139	340	988	154	30	43
7	34	14	275	45	318	123	150	340	870	153	30	55
8	45	29	220	51	277	126	190	432	906	122	29	85
9	34	47	195	56	255	128	300	604	942	113	29	80
10	29	55	185	63	249	142	247	774	1,080	104	42	90
11	23	122	255	72	268	167	237	816	1,030	101	98	127
12	18	79	370	82	302	169	227	834	888	78	60	175
13	18	81	480	95	374	176	242	840	798	75	47	179
14	23	66	490	106	371	179	315	816	744	46	46	109
15	17	71	287	115	285	190	395	618	678	56	40	91
16	17	83	199	114	239	631	456	582	588	62	35	105
17	15	140	156	107	238	881	390	648	504	64	36	124
18	15	148	132	100	305	724	355	648	486	80	32	135
19	14	296	117	79	376	581	345	774	450	68	67	128
20	12	230	108	84	288	479	305	906	426	56	78	163
21	13	204	102	79	216	386	270	1,020	350	48	68	127
22	13	168	94	50	190	334	280	1,010	370	64	62	119
23	13	128	85	40	189	322	426	930	290	80	60	111
24	12	91	78	44	193	298	405	768	310	80	64	102
25	10	97	73	51	192	265	516	756	270	72	77	105
26	9.5	110	70	82	179	230	564	894	221	58	99	94
27	9.5	135	66	130	171	208	600	846	147	22	113	84
28	10	190	65	247	173	193	684	792	98	36	83	83
29	9.5	285	64	1,520	-----	186	720	846	92	42	83	95
30	9.5	370	64	3,010	-----	183	714	846	151	50	76	116
31	9.5	-----	64	3,310	-----	192	-----	834	-----	54	71	-----
TOTAL	537.5	3,297.5	6,839	10,086	12,166	8,407	10,242	21,857	18,454	3,199	1,684	2,967
MEAN	17.3	110	221	325	435	271	341	705	615	103	54.3	98.9
MAX	45	370	735	3,310	2,280	881	720	1,020	1,080	285	113	179
MIN	9.5	9.0	64	40	171	123	136	340	92	22	14	43
AC-FT	1,070	6,540	13,560	20,010	24,130	16,680	20,310	43,350	36,600	6,350	3,340	5,880

CAL YR 1966: TOTAL 37,134.4 MEAN 102 MAX 739 MIN 2.8 AC-FT 73,650
WAT YR 1967: TOTAL 99,736.0 MEAN 273 MAX 3,310 MIN 9.0 AC-FT 197,800

Note.--No gage-height record Nov. 17 to Dec. 14.

SACRAMENTO RIVER BASIN

11-3490. PIT RIVER NEAR LOOKOUT, CALIF.

LOCATION.--Lat 41°19'25", long 121°07'35", in NE¼ sec.11, T.40 N., R.7 E., on right bank 0.5 mile downstream from unnamed tributary and 8.5 miles north of Lookout.

DRAINAGE AREA.--1,585 sq mi, excluding Goose Lake basin.

RECORDS AVAILABLE.--January 1929 to September 1931, August 1958 to September 1967.

GAGE.--Graphic water-stage recorder. Altitude of gage is 4,160 ft (from topographic map). January 1929 to September 1931, graphic water-stage recorder at site approximately 2.5 miles downstream at different datum.

AVERAGE DISCHARGE.--11 years, 231 cfs (167,200 acre-ft per year).

EXTREMES.--Maximum discharge during year, 5,960 cfs Jan. 31 (gage height, 17.72 ft); minimum daily, 14 cfs Oct. 27-28.

1929-31, 1958-67: Maximum discharge, 8,170 cfs Oct. 14, 1962 (gage height, 19.39 ft, from floodmarks in gage well); no flow Aug. 29, 1931.

REMARKS.--Records good Oct. 1 to Nov. 15 and May 15 to Sept. 30, otherwise fair. Flow regulated by many small reservoirs. Diversions for irrigation of 41,000 acres above station. See schematic diagram for Pit and McCloud River basins.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	17	15	485	65	3,320	308	299	690	869	276	57	74
2	18	15	541	65	2,480	294	282	640	917	200	45	62
3	18	15	675	66	1,750	274	259	600	962	196	20	54
4	18	15	943	62	1,070	231	238	580	1,000	239	23	49
5	18	16	1,690	58	770	210	233	565	1,020	272	19	46
6	19	19	883	54	632	204	245	560	1,020	223	30	43
7	20	22	659	60	527	203	261	580	893	170	31	45
8	27	20	452	70	449	203	284	650	860	144	29	68
9	35	23	297	73	407	218	373	764	920	124	23	77
10	28	41	263	81	413	236	376	1,040	1,000	116	29	96
11	24	69	270	80	443	256	352	1,150	1,060	111	62	95
12	24	117	356	86	519	266	357	1,120	911	98	83	160
13	21	63	782	85	623	265	354	1,050	794	83	55	163
14	20	70	833	85	596	272	452	1,010	716	66	48	161
15	20	64	524	84	463	284	633	836	663	49	46	93
16	19	81	354	81	382	1,000	668	737	602	62	39	93
17	19	79	265	77	404	1,500	665	785	527	65	36	114
18	13	144	223	74	502	1,200	623	764	496	70	37	147
19	13	155	190	70	533	1,000	603	963	477	76	37	124
20	16	351	173	65	443	850	530	920	452	65	76	161
21	16	243	157	61	331	700	502	1,110	390	52	80	133
22	13	226	140	56	297	650	563	1,090	365	48	71	134
23	13	174	130	50	297	680	767	1,050	370	63	64	116
24	16	120	110	52	303	599	900	851	265	73	66	112
25	16	85	90	54	301	505	1,200	749	290	74	70	102
26	15	92	80	56	276	429	1,200	969	259	68	85	112
27	14	107	75	90	272	373	1,100	873	196	53	108	90
28	14	177	70	202	290	341	1,000	915	123	27	112	82
29	15	452	63	2,650	- - - -	314	900	836	104	39	87	83
30	16	554	67	4,380	- - - -	303	790	843	102	45	83	112
31	15	- - - -	66	5,040	- - - -	308	- - - -	842	- - - -	56	81	- - - -
Total	590	3,639	11,921	14,137	19,093	14,486	17,024	25,842	18,633	3,313	1,746	3,011
Mean	19	121	385	456	682	467	567	834	621	107	56.3	100
Max	35	554	1,690	5,040	3,320	1,500	1,200	1,150	1,060	276	112	163
Min	14	15	66	50	272	204	233	560	102	27	19	43
Ac-ft	1,170	7,220	23,640	29,040	37,880	28,730	33,770	51,260	36,960	6,580	3,460	5,970
Cal yr 1966: Total	56,109.6		Mean 154		Max 1,390	Min 7.0	Ac-ft 111,300					
Wtr yr 1967: Total	133,445		Mean 366		Max 5,040	Min 14	Ac-ft 264,700					

11-3505. ASH CREEK AT ADIN, CALIF.

LOCATION.--Lat 41°11'54", long 120°56'32", in SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.21, T.39 N., R.9 E., on left bank 300 ft upstream from highway bridge at Adin and 0.4 mile upstream from Butte Creek.

DRAINAGE AREA.--258 sq mi.

RECORDS AVAILABLE.--March 1904 to December 1905, October 1928 to November 1932, October 1957 to September 1967. Records of daily discharge for Oct. 19-31, 1928, are in error and should not be used.

GAGE.--Graphic water-stage recorder. Altitude of gage is 4,190 ft (estimated on basis of bench mark 300 ft downstream). Prior to Sept. 12, 1957, graphic water-stage recorder or staff gage at sites within 1 mile of present site, at different datums.

AVERAGE DISCHARGE.--15 years (1904-5, 1928-32, 1957-67), 66.7 cfs (48,290 acre-ft per year).

EXTREMES.--Maximum discharge during year, not determined, probably occurred Jan. 29; minimum daily, 14 cfs for several days in July and September.
1904-5, 1928-32, 1957-67: Maximum discharge, 2,880 cfs Oct. 13, 1962 (gage height, 14.40 ft); no flow for part of Aug. 26, 1962.

REMARKS.--Small diversions above station for irrigation. See schematic diagram for Pit and McCloud River basins.

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

REVISIONS (water years).--1966 report: 1958(M), 1960(M).

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	22	24	84	30	400	207	135	253	210	17	22	16
2	22	24	100	30	310	181	134	262	185	19	22	17
3	19	22	124	30	250	140	129	274	156	18	21	14
4	17	22	70	32	230	109	107	308	140	15	21	14
5	20	23	168	35	190	110	120	332	149	14	20	15
6	21	30	78	30	180	129	113	341	180	15	15	14
7	21	31	63	26	175	128	135	374	148	16	16	14
8	21	33	55	27	170	124	196	439	130	16	16	14
9	21	32	45	31	168	128	156	510	123	16	17	16
10	21	30	68	31	173	121	148	588	115	14	19	16
11	20	34	68	31	186	123	154	567	95	15	19	15
12	20	34	84	33	301	112	251	567	91	15	25	14
13	20	33	152	36	292	109	210	478	75	15	21	14
14	22	30	123	35	220	109	326	427	61	15	21	14
15	24	30	73	36	148	132	383	429	59	14	21	14
16	24	40	58	35	136	502	253	449	52	14	23	14
17	23	36	53	30	183	351	208	467	49	20	22	16
18	22	32	49	30	202	340	271	465	45	20	23	20
19	21	30	46	30	166	245	227	460	42	21	22	19
20	20	34	46	32	129	214	214	423	45	16	24	19
21	20	36	43	36	121	198	190	399	43	15	24	22
22	23	37	39	36	136	188	308	378	37	18	24	19
23	24	31	36	31	157	193	439	355	24	21	21	14
24	24	30	36	41	161	162	586	307	26	24	19	14
25	24	33	36	39	157	148	785	254	24	24	20	14
26	26	36	33	37	157	134	564	220	23	21	24	16
27	25	35	30	41	169	123	536	203	23	21	24	19
28	24	52	30	185	224	124	484	190	20	21	23	20
29	24	69	33	940	-----	123	336	178	16	23	18	21
30	25	43	32	760	-----	121	272	152	17	21	19	21
31	24	-----	30	600	-----	118	-----	156	-----	21	18	-----
Total	684	1006	1984	3,376	5,491	5,246	8,370	11,205	2,403	555	644	489
Mean	22.1	33.5	64.0	109	196	169	279	361	80.1	17.9	20.8	16.3
Max	26	69	168	940	400	502	785	588	210	24	25	22
Min	17	22	30	26	121	109	107	152	16	14	15	14
Ac-ft	1,360	2,000	3,940	6,700	10,890	10,400	16,600	22,220	4,770	1,100	1,280	970

Cal yr 1966: Total 15,586.3 Mean 42.7 Max 477 Min 8.6 Ac-ft 30,910
Wtr yr 1967: Total 41,453.0 Mean 114 Max 940 Min 14 Ac-ft 82,220

Note.--No gage-height record Jan. 29 to Feb. 9.

11-3525. HORSE CREEK AT LITTLE VALLEY, NEAR PITTVILLE, CALIF.

LOCATION.--Lat 40°53'56", long 121°10'23", in NE $\frac{1}{4}$ sec.15, T.35 N., R.7 E., on left bank 100 ft downstream from railroad bridge, 0.5 mile northeast of Little Valley, and 13 miles southeast of Pittville.

DRAINAGE AREA.--237 sq mi.

RECORDS AVAILABLE.--December 1928 to September 1931, October 1959 to September 1967 (discontinued).

GAGE.--Graphic water-stage recorder and concrete control. Altitude of gage is 4,150 ft (from topographic map). Prior to 1959 at datum 0.1 ft lower.

AVERAGE DISCHARGE.--10 years, 22.6 cfs (16,360 acre-ft per year).

EXTREMES.--Maximum discharge during year, 522 cfs Jan. 29 (gage height, 3.67 ft), from rating curve extended above 210 cfs; minimum daily, 4.5 cfs Aug. 18-22.

1928-31, 1959-67: Maximum discharge, 5,290 cfs Oct. 14, 1962 (gage height, 5.79 ft), from rating curve extended above 210 cfs; minimum daily, 2.1 cfs Aug. 28, 1966.

REMARKS.--Divisions for irrigation above station. See schematic diagram for Pit and McCloud River basins.

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

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8.4	11	14	11	212	22	42	133	96	11	7.2	7.2
2	8.4	11	23	11	119	21	46	115	90	10	7.2	6.8
3	6.1	11	34	11	85	20	42	106	72	11	7.6	6.5
4	5.1	11	37	11	72	20	36	102	64	10	7.6	6.8
5	6.8	10	37	12	63	19	34	110	66	10	7.2	6.8
6	7.6	12	35	11	51	18	32	117	61	11	6.8	6.5
7	9.8	14	23	10	49	18	35	119	57	11	6.8	6.5
8	10	14	21	10	45	18	37	141	56	12	6.8	6.1
9	8.9	13	18	11	41	18	36	176	66	11	6.8	6.1
10	8.9	14	18	11	40	19	36	239	69	11	5.8	5.8
11	8.4	13	20	11	38	25	35	260	68	11	5.4	6.1
12	8.4	13	19	12	37	29	37	249	63	10	6.8	6.1
13	8.4	13	19	13	35	23	35	222	64	10	7.2	5.8
14	9.8	12	24	13	34	24	36	203	63	11	6.8	5.8
15	13	12	22	13	34	32	42	187	58	10	6.8	7.6
16	12	16	18	13	32	178	39	176	51	11	6.5	9.3
17	12	18	16	13	32	167	35	167	46	8.9	5.4	11
18	13	15	14	12	32	102	44	164	40	5.4	4.5	13
19	13	14	14	12	30	74	53	156	39	5.8	4.5	12
20	12	21	14	13	30	58	63	146	42	5.8	4.5	13
21	12	26	14	18	30	56	63	136	39	6.1	4.5	13
22	11	24	13	30	29	53	57	129	37	6.1	4.5	12
23	11	19	12	27	28	53	57	122	27	5.8	4.8	11
24	11	14	12	24	27	54	76	109	20	5.4	4.8	11
25	10	13	12	22	25	47	129	94	16	5.1	5.4	11
26	11	13	11	20	24	42	115	86	14	5.4	6.1	11
27	13	14	11	22	24	38	122	85	13	5.8	7.6	10
28	14	16	10	72	23	38	136	76	11	6.1	7.6	9.8
29	12	17	11	318	- - - -	40	143	68	10	6.8	6.8	9.8
30	12	17	11	389	- - - -	41	148	58	10	6.1	7.2	9.3
31	11	- - - -	11	327	- - - -	38	- - - -	61	- - - -	6.5	7.2	- - - -
Total	318.0	441	577	1503	1321	1405	1841	4311	1428	262.1	194.7	262.7
Mean	10.3	14.7	18.6	48.5	47.2	45.3	61.4	139	47.6	8.45	6.28	8.76
Max	14	26	37	389	212	178	148	260	96	12	7.6	13
Min	5.1	10	10	10	23	18	32	58	10	5.1	4.5	5.8
Ac-ft	631	875	1140	2980	2620	2790	3650	8550	2830	520	386	521

Cal yr 1966: Total 4,070.5 Mean 11.2 Max 60 Min 2.1 Ac-ft 8,070
Wtr yr 1967: Total 13,864.5 Mean 38.0 Max 389 Min 4.5 Ac-ft 27,500

SACRAMENTO RIVER BASIN

11-3536. DRY CREEK NEAR DANA, CALIF.

LOCATION.--Lat 41°08'21", long 121°38'24", in SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.8, T.38 N., R.3 E., at culvert on State Highway 89, 4.5 miles northwest of Dana.

DRAINAGE AREA.--6.46 sq mi.

RECORDS AVAILABLE.--July 1962 to September 1966 (annual maximum), October 1966 to September 1967.

GAGE.--Graphic water-stage recorder with recording rain-gage attachment, and crest-stage gage. Altitude of gage is 4,040 ft (from topographic map). Prior to Oct. 1, 1966, crest-stage gages at same site and datum.

EXTREMES.--Maximum discharge during year, 63 cfs May 9 (gage height, 3.68 ft); no flow for many days.
1963-67: Maximum discharge, 702 cfs Dec. 22, 1964 (gage height, 10.69 ft), from rating curve extended above 120 cfs on basis of computation of flow through culvert at gage heights 5.02 and 10.69 ft.

REMARKS.--Records good except those for the winter period, which are fair. No regulation or diversion above station.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	3.6	1.2	3.8	4.3	10	9.5	15	2.2	0.40	0.10
2		0	3.6	1.2	7.5	4.2	9.8	10	13	2.0	.40	.10
3		0	6.2	1.1	6.6	4.2	9.5	12	12	1.9	.40	0
4		0	1.7	1.0	6.1	4.0	8.9	14	10	1.8	.30	0
5		0	2.5	1.0	5.8	3.9	9.1	16	9.3	1.7	.30	0
6		0	9.3	1.0	5.6	3.9	9.3	15	9.1	1.5	.30	0
7		0	6.6	.80	5.4	3.9	9.8	29	3.9	1.4	.30	0
8		0	4.8	.80	5.1	3.8	10	44	3.2	1.3	.30	0
9		0	4.0	.80	4.9	3.8	11	56	3.2	1.2	.30	0
10		0	3.6	.80	4.9	3.8	12	52	7.6	1.2	.20	0
11		0	3.2	.80	4.8	3.7	11	40	7.1	1.1	.20	0
12		0	3.2	.80	4.9	3.7	10	34	6.7	1.0	.20	0
13		0	4.9	.80	5.6	3.7	11	33	5.4	1.0	.20	0
14		0	4.6	.80	5.9	3.9	12	34	5.9	.90	.20	0
15		0	3.8	.80	5.7	4.2	10	37	5.6	.80	.20	0
16		0	3.3	.80	5.4	8.9	10	44	5.1	.80	.20	0
17		0	3.1	.80	5.4	12	9.8	51	4.9	.80	.20	0
18		0	2.9	.80	5.4	18	9.1	54	4.5	.80	.20	0
19		0	2.7	.80	5.1	15	3.5	54	4.9	.70	.20	0
20		0	2.5	.90	4.9	15	7.8	49	4.2	.60	.20	0
21		1.0	2.4	1.1	4.6	15	7.6	46	4.0	.60	.20	0
22		1.1	2.2	3.8	4.6	17	7.6	44	3.8	.60	.20	0
23		.60	2.0	3.6	4.6	31	7.8	41	3.5	.50	.10	0
24		.40	1.9	3.3	4.6	28	8.4	36	3.3	.50	.10	0
25		.30	1.8	3.0	4.5	22	9.3	31	3.1	.50	.10	0
26		.30	1.7	2.9	4.3	19	9.3	28	3.0	.50	.10	0
27		.20	1.6	4.4	4.3	17	9.5	24	2.7	.40	.10	0
28		.40	1.4	8.2	4.3	16	9.5	24	2.6	.40	.10	0
29		2.0	1.3	16	-----	14	9.5	21	2.4	.40	.10	0
30		1.9	1.4	13	-----	13	9.3	13	2.3	.40	.10	0
31		-----	1.3	11	-----	12	-----	16	-----	.40	.10	-----
Total	0	8.20	141.8	88.10	149.6	331.9	286.4	1016.5	187.3	29.90	6.50	.20
Mean	0	0.27	4.57	2.84	5.34	10.7	9.55	32.8	6.24	0.96	0.21	.007
Max	0	2.0	25	16	8.8	31	12	56	15	2.2	.40	.10
Min	0	0	1.3	.80	4.3	3.7	7.6	9.5	2.3	.40	.10	0
Ac-ft	0	16	281	175	297	653	568	2,020	372	59	13	.4
(†)	0	8.72	7.31	4.56	0.49	3.77	4.85	1.69	1.02	0	0	0

Calendar year 1966 Total - Mean - Max - Min - Ac-ft -
Water year 1966-67 Total 2,252.7 Mean 6.17 Max 56 Min 0 Ac-ft 4,460

† Precipitation in inches (some falling as snow may not be included).

11-3537. FALL RIVER NEAR DANA, CALIF.

LOCATION.--Lat 41°06'20", long 121°33'00", in NE $\frac{1}{4}$ sec.30, T.38 N., R.4 E., on left bank 0.7 mile southeast of Dana and 1 mile downstream from large springs below Bear Creek.

DRAINAGE AREA.--More than 123 sq mi; hydrologic drainage boundaries uncertain owing to ground-water exchange.

RECORDS AVAILABLE.--October 1958 to September 1967 (discontinued).

GAGE.--Graphic water-stage recorder. Altitude of gage is 3,340 ft (from topographic map).

AVERAGE DISCHARGE.--9 years, 465 cfs (336,600 acre-ft per year).

EXTREMES.--Maximum discharge during year, 932 cfs May 23 (gage height, 8.15 ft); minimum daily, 415 cfs Nov.

27, Sept. 27, 29, 30.

1958-67: Maximum discharge, 3,910 cfs Dec. 23, 1964 (gage height, 12.62 ft), from rating curve extended above 1,400 cfs; minimum daily, 353 cfs Jan. 29, 1962.

Flood of Feb. 26, 1958, reached a stage of 10.25 ft (discharge, 2,190 cfs).

REMARKS.--Practically entire flow of stream originates in a large spring about 1 mile upstream. Some pumping from stream in vicinity of gage for irrigation.

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

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	421	417	431	429	584	479	567	549	704	483	464	450
2	421	417	472	425	561	485	557	559	704	475	466	448
3	421	417	489	425	541	483	555	567	573	472	464	446
4	421	417	489	425	524	479	551	574	662	472	466	446
5	419	417	685	425	509	475	553	582	659	472	470	444
6	419	421	554	421	497	475	565	615	656	466	472	441
7	419	419	507	423	493	479	565	636	656	464	472	443
8	421	419	472	425	483	481	561	685	644	462	472	441
9	421	419	452	425	481	483	565	772	638	462	472	439
10	419	419	443	427	479	505	569	842	631	458	469	439
11	419	419	446	427	477	516	567	809	605	458	468	437
12	419	421	443	427	479	514	559	753	580	454	475	435
13	419	419	452	427	485	507	563	724	571	454	475	435
14	419	419	468	427	489	505	598	718	561	452	475	433
15	419	423	448	425	481	503	589	733	555	446	475	431
16	419	425	441	425	479	574	571	772	549	446	475	429
17	419	423	433	419	477	623	571	821	547	446	477	427
18	419	423	431	425	479	669	572	869	541	443	477	427
19	419	423	431	423	479	633	567	908	551	444	475	425
20	417	450	429	429	477	615	555	908	545	446	474	423
21	419	433	431	433	475	611	549	902	536	450	472	421
22	421	431	431	433	475	605	549	912	526	452	470	421
23	421	425	431	433	475	679	547	914	520	454	468	419
24	421	419	431	437	477	677	557	898	510	456	466	421
25	417	417	431	437	479	636	567	863	505	456	466	419
26	417	419	429	437	477	609	563	815	499	458	464	417
27	419	415	427	439	475	596	574	795	495	458	460	415
28	419	417	427	439	477	596	569	803	489	458	458	417
29	419	427	429	477	- - - - -	584	559	803	475	460	456	415
30	417	429	429	582	- - - - -	576	551	759	483	462	452	415
31	417	- - - - -	427	602	- - - - -	576	- - - - -	724	- - - - -	462	450	- - - - -
Total	12,997	12,659	14,139	13,653	13,763	17,228	16,904	23,584	17,269	14,201	14,514	12,919
Mean	419	422	456	440	492	556	563	761	576	458	468	431
Max	421	450	685	602	584	679	598	914	704	483	477	480
Min	417	415	427	419	475	475	547	549	475	443	450	415
Ac-ft	25,780	25,110	28,040	27,080	27,300	34,170	33,530	46,780	34,250	28,170	28,790	25,620
Cal yr 1966: Total	170,026	Mean	466	Max	1,090	Min	401	Ac-ft	337,200			
Wtr yr 1967: Total	183,330	Mean	504	Max	914	Min	415	Ac-ft	364,600			

SACRAMENTO RIVER BASIN

11-3555. HAT CREEK NEAR HAT CREEK, CALIF.

LOCATION.--Lat 40°41'12", long 121°25'25", in SE¼ sec.28, T.33 N., R.5 E., on right bank 0.8 mile northeast of Old Station Post Office and 8 miles southeast of Hat Creek Post Office.

DRAINAGE AREA.--162 sq mi; hydrologic drainage boundary uncertain owing to ground-water exchange.

RECORDS AVAILABLE.--July 1926 to September 1929, April 1930 to September 1967.

GAGE.--Graphic water-stage recorder. Altitude of gage is 4,300 ft (from topographic map). July 1926 to April 1928 at site 0.5 mile upstream at different datum. May 1928 to July 1965 at site 80 ft upstream at datum 2.78 ft higher.

AVERAGE DISCHARGE.--40 years, 133 cfs (96,290 acre-ft per year).

EXTREMES.--Maximum discharge during year, 386 cfs June 20 (gage height, 4.22 ft); minimum daily, 117 cfs Oct. 9-11.

1926-67: Maximum discharge, 3,320 cfs Dec. 11, 1937 (gage height, 7.75 ft, in gage well, affected by drawdown, site and datum then in use), from rating curve extended above 610 cfs on basis of slope-area measurement of maximum flow; minimum, 67 cfs Sept. 7, 1934.

REMARKS.--Records excellent. Diversions for irrigations of 260 acres above station. See schematic diagram for Pit and McCloud River basins.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	123	121	156	132	149	133	133	132	217	302	157	129
2	128	119	143	131	147	133	137	135	199	300	159	127
3	123	120	141	132	145	134	136	135	193	296	158	127
4	123	120	143	134	143	132	136	137	200	281	157	129
5	120	121	140	134	141	133	136	137	211	273	155	129
6	120	123	142	129	141	133	133	137	225	270	154	128
7	119	130	140	130	140	133	136	143	228	262	153	124
8	113	131	139	132	140	133	136	154	246	255	152	132
9	117	131	141	133	140	134	136	167	275	244	146	132
10	117	132	141	134	139	133	136	159	285	239	143	131
11	117	132	140	134	138	127	136	150	290	237	142	132
12	113	136	142	134	139	127	135	147	300	228	140	135
13	113	138	145	134	140	130	136	146	283	217	138	135
14	113	138	139	134	139	130	137	150	275	209	138	135
15	113	147	139	134	136	132	136	157	275	204	138	135
16	122	186	133	133	137	147	135	163	283	212	137	135
17	123	143	139	130	137	153	135	174	304	204	136	131
18	129	139	139	133	137	150	134	184	314	191	134	126
19	129	161	138	134	136	144	136	191	336	183	140	126
20	129	174	133	133	134	143	135	193	330	179	144	124
21	129	149	137	142	134	143	134	214	332	176	143	124
22	129	141	134	133	137	143	135	230	310	175	140	123
23	129	137	138	133	136	144	134	246	300	171	138	123
24	129	136	134	134	136	140	135	255	302	168	138	124
25	128	136	133	132	134	141	135	244	310	164	140	124
26	129	141	133	133	134	140	134	246	310	159	141	124
27	130	140	130	137	134	140	135	246	306	159	140	123
28	130	146	129	147	134	141	132	255	306	153	138	123
29	130	191	132	176	---	140	132	256	302	155	132	132
30	130	160	132	163	---	138	132	247	304	154	131	134
31	127	---	132	153	---	137	---	240	---	152	128	---
Total	3,364	4,224	4,292	4,237	3,377	4,266	4,058	5,775	8,355	6,577	4,430	3,858
Mean	125	141	138	137	138	138	135	186	273	212	143	129
Max	130	191	156	176	149	153	138	256	336	302	159	135
Min	117	119	129	129	134	127	132	132	193	152	128	123
Ac-ft	7,560	8,380	8,510	8,400	7,690	8,460	8,050	11,450	16,570	13,050	8,790	7,650

Cal yr 1966: Total 52,831 Mean 145 Max 216 Min 117 Ac-ft 104,800
 Wtr yr 1967: Total 57,313 Mean 153 Max 336 Min 117 Ac-ft 114,700

Peak discharge (base, 180 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-16	0530	3.56	253	5-23	2400	3.75	288
11-19	1830	3.34	216	6-11	2300	3.92	322
11-29	1000	3.29	208	6-20	2100	4.22	386
1-29	1700	3.14	186				

11-3605. BURNEY CREEK NEAR BURNEY, CALIF.

LOCATION.--Lat 40°52'15", long 121°40'50", in SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.19, T.35 N., R.3 E., on right bank 300 ft upstream from road bridge, three-quarters of a mile southwest of Burney, and 4.5 miles upstream from Goose Creek.

DRAINAGE AREA.--88.8 sq mi.

RECORDS AVAILABLE.--August 1911 to August 1913 (published as "at Burney"), March 1921 to September 1922, April 1958 to September 1964, October 1965 to September 1967 (discontinued). Monthly discharge only for some periods, published in WSP 1315-A.

GAGE.--Graphic water-stage recorder. Altitude of gage is 3,180 ft (from topographic map). August 1911 to August 1913 and March 1921 to September 1922, staff gage or graphic water-stage recorder at different site and datum.

AVERAGE DISCHARGE.--11 years (1911-13, 1921-22, 1958-64, 1965-67), 54.0 cfs (39,090 acre-ft per year).

EXTREMES.--Maximum discharge during year, 1,210 cfs Jan. 29 (gage height, 10.35 ft); minimum daily, 7.5 cfs Oct. 17, 18.

1911-13, 1921-22, 1958-64, 1965-67: Maximum discharge, 1,350 cfs Jan. 31, 1963 (gage height, 11.62 ft), from rating curve extended above 380 cfs; minimum, 3.4 cfs Aug. 4, 1961.

REMARKS.--Probably small diversions upstream for irrigation. Slight regulation probably caused by logging operations.

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

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	10	13	179	33	370	78	127	90	286	56	19	14
2	11	11	326	31	284	79	122	88	292	54	18	15
3	10	7.8	240	31	244	78	118	93	248	52	13	16
4	9.2	9.5	256	32	210	72	112	98	176	50	19	16
5	9.2	12	449	31	186	70	109	112	153	48	19	14
6	8.5	16	229	28	158	69	120	141	153	45	20	12
7	9.5	17	141	27	148	71	124	139	157	43	23	12
8	9.9	17	90	27	138	72	117	165	156	40	24	12
9	9.2	13	90	26	131	74	118	236	224	41	21	13
10	11	13	84	26	128	95	117	334	182	40	20	13
11	11	14	80	26	123	130	110	343	157	40	20	14
12	12	31	81	27	124	96	102	279	186	37	20	15
13	8.8	21	109	27	131	84	101	242	202	31	20	15
14	9.2	40	104	27	130	82	114	260	141	30	18	13
15	11	62	80	27	113	81	119	297	134	29	15	12
16	10	148	90	27	105	271	114	346	129	30	16	14
17	7.5	40	51	24	102	269	107	383	119	30	16	16
18	7.5	27	46	24	97	262	107	415	115	29	16	21
19	8.5	55	44	24	95	201	108	469	113	27	18	18
20	13	260	44	31	91	199	109	536	105	27	16	18
21	12	128	48	95	85	191	104	539	107	27	15	18
22	12	86	45	91	83	198	96	602	103	31	16	19
23	12	53	44	74	82	299	92	636	95	30	15	18
24	12	45	42	62	82	225	93	588	83	26	16	16
25	12	40	51	64	86	189	102	489	77	23	16	16
26	12	38	45	60	80	165	112	435	72	23	16	16
27	12	37	37	63	77	147	113	402	70	24	16	16
28	12	48	30	176	77	155	113	411	68	23	16	16
29	12	131	30	920	-----	148	107	367	64	23	15	15
30	13	82	30	679	-----	138	96	312	60	22	15	16
31	14	-----	32	475	-----	137	-----	277	-----	20	15	-----
Total	331.0	1515.3	3,247	3,315	3,760	4,425	3,303	10,124	4,227	10,511	547	459
Mean	10.7	50.5	105	107	134	143	110	327	141	33.9	17.6	15.3
Max	14	260	449	920	370	299	127	636	292	56	24	21
Min	7.5	7.8	30	24	77	69	92	88	60	20	15	12
Ac-ft	657	3,010	6,440	6,580	7,460	8,780	6,550	20,080	8,380	2,080	1,080	910

Cal yr 1966 Total 18,825.6 Mean 51.6 Max 324 Min 3.5 Ac-ft 37,340
Wtr yr 1967 Total 36,304.3 Mean 99.4 Max 920 Min 7.5 Ac-ft 72,000

SACRAMENTO RIVER BASIN

11-3625. PIT RIVER BELOW PIT NO. 4 DAM, CALIF.

LOCATION.--Lat 40°58'25", long 121°46'42", in SW $\frac{1}{4}$ sec.17, T.36 N., R.2 E., on right bank 0.65 mile downstream from Ruling Creek, 1.3 miles downstream from Pit No. 4 Dam, and 2.7 miles downstream from Pit No. 3 powerhouse.

DRAINAGE AREA.--4,647 sq mi, excluding Goose Lake basin.

RECORDS AVAILABLE.--May 1922 to September 1967. 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.

GAGE.--Digital water-stage recorder. Altitude of gage is 2,358 ft (from river-profile map). Prior to November 1922 graphic water-stage recorder at site at Pecks Bridge 7.4 miles upstream at different datum. November 1922 to June 20, 1927, graphic water-stage recorder at site at Lindsay Flat 1.8 miles upstream at different datum. June 20, 1927, to Mar. 31, 1965, graphic water-stage recorder at present site and datum.

AVERAGE DISCHARGE.--57 years (1910-67), 2,736 cfs (1,981,000 acre-ft per year), including diversion to Pit No. 4 powerhouse. Period 1910-22 extrapolated on basis of records for Pit River at Big Bend.

EXTREMES.--Maximum discharge during year, 10,100 cfs Feb. 2 (gage height, 11.90 ft); minimum daily, 50 cfs Mar. 7, 30.

1922-55 (prior to diversion to Pit No. 4 powerhouse): Maximum discharge, 30,200 cfs Dec. 12, 1937 (gage height, 17.90 ft), from rating curve extended above 12,000 cfs on basis of velocity-area studies of maximum flow; minimum daily, 234 cfs Sept. 13, 1953.

1955-67: Maximum discharge, 21,600 cfs Dec. 24, 1964 (gage height, 15.68 ft); minimum daily, 40 cfs Feb. 21, 1965.

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

COOPERATION.--Digital water-stage recorder tape and 11 discharge measurements furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	130	90	69	53	3,820	53	159	941	321	149	145	158
2	92	89	69	52	5,470	53	147	645	392	151	151	155
3	90	89	68	56	6,300	56	112	533	426	147	151	154
4	89	88	72	54	5,230	58	122	434	394	152	145	154
5	88	84	83	55	3,510	57	91	413	291	145	151	151
6	92	85	63	53	1,890	53	113	455	236	150	154	156
7	91	87	615	56	1,040	50	155	457	222	151	152	161
8	89	85	228	55	618	53	161	540	187	151	149	161
9	94	78	66	55	242	53	161	711	177	147	145	150
10	100	76	59	56	142	56	152	1,290	103	155	146	158
11	92	79	62	55	68	62	128	1,670	97	151	151	168
12	89	80	63	55	71	55	116	1,910	123	151	151	176
13	89	79	60	52	324	55	113	1,880	145	152	151	162
14	90	81	58	58	695	55	115	1,640	170	153	163	178
15	92	136	56	52	598	55	121	1,540	151	155	151	161
16	94	89	55	54	413	82	575	1,610	165	156	145	175
17	94	82	54	54	65	1,590	732	1,360	167	157	146	180
18	96	82	54	54	59	2,850	697	1,200	157	206	147	169
19	110	82	54	54	57	2,880	761	1,230	161	149	145	172
20	114	86	54	55	57	2,140	728	1,390	156	159	156	166
21	112	79	54	62	57	1,590	581	1,460	149	147	158	179
22	112	79	54	56	57	1,110	310	1,360	148	144	151	188
23	108	83	54	57	56	910	156	1,420	147	150	150	193
24	113	85	54	56	55	1,060	684	1,320	150	152	150	186
25	113	86	54	55	54	821	762	1,130	152	148	147	190
26	114	86	54	56	56	507	1,200	879	148	151	146	185
27	113	72	54	56	55	258	1,750	703	151	146	147	177
28	114	75	54	59	56	62	1,660	616	150	154	154	181
29	112	73	60	301	-----	53	1,440	566	150	141	159	195
30	113	73	58	107	-----	50	1,330	438	152	146	160	185
31	114	-----	57	1,820	-----	51	-----	361	-----	154	160	-----
TOTAL	3,153	2,518	2,569	3,773	31,115	16,838	15,332	32,102	5,738	4,720	4,677	5,124
MEAN	102	83.9	82.9	122	1,111	543	511	1,036	191	152	151	171
MAX	130	136	615	1,820	6,300	2,880	1,750	1,910	426	206	163	195
MIN	88	72	54	52	54	50	91	361	97	141	145	150
AC-FT	6,250	4,990	5,100	7,480	61,720	33,400	30,410	63,670	11,380	9,360	9,280	10,160
MEAN +	1,991	2,339	3,129	2,648	4,716	4,009	4,611	3,440	2,002	2,002	2,038	1,676
AC-FT +	122,400	139,200	192,400	162,800	261,900	246,500	242,900	283,500	204,700	123,100	125,300	99,740

CAL YR 1966: TOTAL 47,276 MEAN 130 MAX 1,750 MIN 53 AC-FT 93,770 MEAN + 2,425 AC-FT + 1,756,000
 WAT YR 1967: TOTAL 127,659 MEAN 350 MAX 6,300 MIN 50 AC-FT 253,200 MEAN + 3,045 AC-FT + 2,204,000

+ Adjusted for diversion to Pit No. 4 powerhouse.

SACRAMENTO RIVER BASIN

779

11-3630. PIT RIVER AT BIG BEND, CALIF.

LOCATION.--Lat 41°01'10", long 121°54'35", in NW¼SW¼ sec.31, T.37 N., R.1 E., on left bank at Big Bend, 0.4 mile downstream from Nelson Creek, and 1.5 miles upstream from Kosk Creek.

DRAINAGE AREA.--4,710 sq mi, excluding Goose Lake basin.

RECORDS AVAILABLE.--October 1910 to September 1967. Monthly discharge only for some periods, published in WSP 1315-A. Published as "at Henderson" 1910-23.

GAGE.--Digital water-stage recorder. Datum of gage is 1,674.47 ft above mean sea level, datum of 1929. Prior to Dec. 28, 1912, staff gage and Dec. 28, 1912, to June 21, 1924, graphic water-stage recorder at same site at datum 7.69 ft higher. June 22, 1924, to Apr. 1, 1965, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--33 years (1910-43, prior to diversion to Pit No. 5 powerplant), 2,931 cfs (2,122,000 acre-ft per year). Twenty-three years (1944-67), 530 cfs (383,700 acre-ft per year), unadjusted.

EXTREMES.--Maximum discharge during year, 13,300 cfs Feb. 2 (gage height, 13.31 ft); minimum daily, 62 cfs Jan. 15.

1910-67: Maximum discharge, 40,200 cfs Dec. 23, 1964 (gage height, 16.88 ft), from rating curve extended above 13,000 cfs on basis of velocity-area studies; minimum daily, 34 cfs Mar. 29, 1955.

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

COOPERATION.--Digital water-stage recorder tape and 13 discharge measurements furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	109	100	169	73	4,850	132	530	1,570	880	154	135	122
2	110	84	233	72	6,060	130	413	1,260	954	153	133	119
3	113	84	208	72	6,910	129	318	1,090	971	159	129	116
4	115	85	754	72	5,830	125	225	1,000	956	152	131	118
5	112	82	611	72	4,300	122	237	1,050	827	160	124	119
6	115	96	929	71	2,640	120	258	1,040	768	155	129	118
7	113	80	994	69	1,750	118	269	1,100	746	150	127	118
8	112	82	563	69	1,250	117	231	1,220	651	150	129	122
9	115	81	494	69	812	118	263	1,450	666	151	129	124
10	115	83	207	67	711	163	271	2,040	583	149	126	124
11	112	86	129	67	553	206	303	2,330	530	148	127	119
12	111	100	152	66	580	161	332	2,610	574	149	128	118
13	111	97	134	64	817	160	349	2,580	567	148	126	114
14	106	109	121	66	1,180	153	361	2,330	595	143	127	121
15	107	115	114	62	1,190	154	613	2,220	419	139	127	118
16	105	132	110	63	1,010	422	1,180	2,340	204	138	126	118
17	108	98	107	65	563	2,080	1,450	2,140	199	142	124	118
18	115	90	103	63	492	3,760	1,420	1,980	198	145	120	121
19	107	124	100	64	357	3,630	1,440	2,010	203	143	121	119
20	106	211	96	81	343	2,940	1,430	2,150	189	139	117	120
21	105	167	94	175	214	2,300	1,270	2,210	186	141	124	119
22	108	140	91	113	146	1,810	1,780	2,080	184	139	123	116
23	112	113	90	93	142	1,670	522	2,170	182	140	124	119
24	99	105	87	92	144	1,760	1,230	2,050	177	138	121	113
25	71	103	85	87	148	1,590	1,400	1,840	170	135	123	118
26	74	102	83	99	138	1,280	1,770	1,570	170	140	117	117
27	74	98	81	117	134	987	2,380	1,390	165	138	115	118
28	86	119	80	200	132	722	2,320	1,310	165	141	121	115
29	104	153	78	988	-----	655	2,060	1,200	163	133	125	116
30	106	117	77	1,280	-----	640	1,950	1,070	158	136	123	116
31	108	-----	76	2,690	-----	612	-----	894	-----	134	122	-----
TOTAL	3,264	3,236	7,250	7,301	43,396	28,966	28,575	53,294	13,400	4,482	3,873	3,553
MEAN	105	108	234	236	1,550	934	953	1,719	447	145	125	118
MAX	115	211	994	2,690	6,910	3,760	2,380	2,610	971	160	135	124
MIN	71	80	76	62	132	117	225	894	158	133	115	113
AC-FT	6,470	6,420	14,380	14,480	86,070	57,450	56,680	105,700	26,580	8,890	7,680	7,050

CAL. YR 1966: TOTAL 74,552 MEAN 204 MAX 2,840 MIN 70 AC-FT 147,900
 MAY YR 1967: TOTAL 200,590 MEAN 550 MAX 6,910 MIN 62 AC-FT 397,900

SACRAMENTO RIVER BASIN

11-3639.1. JAMES B. BLACK POWERPLANT NEAR BIG BEND, CALIF.

LOCATION.--Lat 40°59'15", long 121°58'35", in SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec.9, T.36 N., R.1 W., at powerplant on right bank of Pit River, 5.8 miles downstream from Big Bend.

RECORDS AVAILABLE.--December 1965 to September 1967.

GAGE.--Recorded output from powerplant turbines.

EXTREMES.--1965-67: Maximum daily discharge during year, 2,420 cfs July 15, 1966; no flow several days June to September, 1966.

REMARKS.--Water is diverted from McCloud Reservoir (see sta. no. 3677.4) at SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.22, T.38 N., R.2 W., to Iron Canyon Reservoir (see sta. no. 3639.2) and thence in the penstock for James B. Black powerplant. Records are combined flow of diversion from McCloud River at McCloud Dam plus Iron Canyon Creek.

COOPERATION.--Records furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	824	828	947	831	2150	1250	1580	1720	1800	602	1100	792
2	825	741	1710	977	2230	1150	1540	1900	1850	555	1280	0
3	823	1360	2020	913	1490	1010	1980	1940	1770	1460	1300	197
4	820	1010	1620	1050	1260	855	1380	1540	1310	995	1200	302
5	820	813	1040	1270	1050	977	1900	1680	1870	1790	519	918
6	810	1190	392	1460	1870	1240	1150	1470	1770	1800	163	1090
7	965	1090	325	1170	1880	968	2030	1580	1790	1830	1120	1630
8	1310	1280	277	777	1320	980	1490	1590	1710	1330	1620	1260
9	760	1290	277	984	1640	984	1500	2060	1830	1090	1460	610
10	875	1130	227	943	956	1020	2060	1710	1760	924	1030	5
11	900	797	427	1420	767	1030	2040	1790	1770	943	978	852
12	900	134	1500	1110	961	1070	1650	1870	1810	1450	359	1800
13	981	0	1810	1020	984	1100	1690	1770	1720	1680	59	2010
14	1070	577	1960	1050	974	1130	1990	1640	1830	1540	991	1780
15	27	940	2020	991	827	1120	1760	1850	1730	1160	847	1960
16	0	572	1940	1230	904	1090	681	1740	1760	750	947	5
17	939	766	2110	1190	784	1360	2020	1830	1710	1210	949	0
18	983	950	2250	1240	1220	2100	2210	1770	1660	802	1050	1390
19	982	930	2280	1420	1340	1870	1800	1850	1740	790	524	1700
20	968	1410	2230	1450	1980	1360	1740	1910	1730	1280	589	1550
21	837	1780	1110	817	1690	938	1690	1960	1740	1160	1270	1120
22	181	2070	1320	459	1410	947	1600	1940	1780	383	905	1080
23	941	1920	1330	283	1420	945	603	1850	1740	874	1630	0
24	1080	935	1610	436	1410	1030	1370	1880	1710	1300	1150	0
25	399	1230	1310	252	1320	877	2280	1860	1500	1520	874	1500
26	829	1560	1310	477	1450	1120	1970	1800	1810	1400	809	1080
27	799	1530	1400	612	1340	1120	1660	1860	1530	1250	847	1010
28	872	1300	1450	770	1310	1860	1720	1760	1810	1300	1250	1360
29	502	1120	1230	864	-----	1840	1390	2000	1590	849	1150	1210
30	308	1120	1210	1740	-----	1390	951	1710	1410	10	1060	5
31	924	-----	1570	2150	-----	1940	-----	1890	-----	977	856	-----
Total	24,754	32,373	42,212	31,366	38,437	37,671	49,930	55,720	52,040	35,004	29,885	28,116
Mean	799	1079	1362	1012	1373	1215	1664	1797	1735	1129	964	937
Max	1310	2070	2280	2150	2230	2100	2280	2060	1870	1830	1630	2010
Min	0	0	227	252	767	855	608	1470	1410	10	59	0
Ac-ft	49,100	64,210	83,730	62,210	76,240	74,720	99,040	110,500	103,200	69,430	59,280	55,770
Cal yr 1966: Total	400,532			Mean 1097	Max 2,420	Min 0	Ac-ft 794,400					
Wtr yr 1967: Total	457,508			Mean 1253	Max 2,280	Min 0	Ac-ft 907,500					

SACRAMENTO RIVER BASIN

781

11-3639.3. IRON CANYON CREEK BELOW IRON CANYON DAM, NEAR BIG BEND, CALIF.

LOCATION.--Lat 41°02'00", long 121°59'08", in NW1SW1 sec.28, T.37 N., R.1 W., on left bank 0.3 mile downstream from Iron Canyon Dam, and 4.1 miles west of Big Bend.

DRAINAGE AREA.--11.6 sq mi.

RECORDS AVAILABLE.--August 1966 to September 1967.

GAGE.--Digital water-stage recorder, 60° sharp-crested V-notch weir, and sharp-crested rectangular weir. Datum of gage is 2,461.52 ft above mean sea level (levels by Pacific Gas and Electric Co.).

EXTREMES.--1966: Maximum discharge during period August to September, 32 cfs Aug. 25 (gage height, 1.79 ft); minimum daily, 1.3 cfs Aug. 24.
1966-67: Maximum discharge during year, 39 cfs Mar. 16 (gage height, 1.84 ft); no flow July 15-18.

REMARKS.--Records good except those for December through July, which are fair. Flow is completely regulated by Iron Canyon Dam (see sta. no. 3639.2). Inter-basin diversion from McCloud River to Iron Canyon Dam where it is diverted through another tunnel to Pit River. See schematic diagram for Pit and McCloud River basins.

COOPERATION.--Digital water-stage recorder tape and nine discharge measurements furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project.

Discharge, in cubic feet per second, 1966

Day	Aug.	Sept.	Day	Aug.	Sept.	Day	Aug.	Sept.	Day	Aug.	Sept.	Day	Aug.	Sept.
1	-	3.9	7	-	3.4	13	-	3.9	19	-	3.2	25	6.9	3.4
2	-	3.7	8	-	3.7	14	-	3.9	20	-	3.1	26	3.3	3.3
3	-	3.6	9	-	3.8	15	-	3.6	21	-	3.0	27	3.1	3.3
4	-	3.4	10	-	3.8	16	-	3.4	22	3.7	3.4	28	3.1	3.3
5	-	3.7	11	-	3.9	17	-	3.3	23	2.2	3.4	29	3.1	3.3
6	-	4.0	12	-	3.9	18	-	3.2	24	1.3	3.3	30	3.0	3.3
												31	3.5	-
Total.....													-	105.4
Mean.....													-	3.51
Ac-ft.....													-	209

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	3.5	3.0	4.9	4.1	4.7	5.9	4.1	4.7	3.3	4.2	4.7	6.4
2	3.5	2.6	14	4.3	3.7	5.3	4.0	4.4	2.9	4.0	4.8	6.8
3	3.1	2.5	2.7	4.7	3.4	5.5	4.0	3.9	2.7	4.0	4.5	6.8
4	2.9	2.4	4.0	4.7	3.2	5.4	3.5	3.8	2.8	3.9	4.1	7.3
5	3.0	2.4	1.6	4.7	3.1	5.3	3.8	3.8	2.8	3.9	3.0	7.3
6	3.5	2.6	1.0	4.2	3.0	5.2	3.8	3.5	2.9	3.9	3.4	7.3
7	3.7	2.6	1.2	2.8	2.9	5.2	3.9	3.2	2.7	4.0	3.6	6.9
8	3.5	2.7	1.4	2.5	2.7	5.1	3.9	3.2	2.8	3.8	3.4	6.9
9	3.3	2.6	2.5	2.5	2.6	5.2	3.9	4.0	2.4	3.7	3.2	5.6
10	3.2	2.5	4.0	2.4	2.4	7.2	3.9	4.5	2.0	3.8	3.0	6.0
11	3.2	2.5	4.0	2.3	2.3	7.6	3.9	4.1	1.5	3.9	3.4	6.0
12	3.2	2.8	4.0	2.4	2.2	7.3	3.7	3.7	1.3	4.0	3.4	6.0
13	3.6	2.9	4.1	2.4	2.4	7.3	4.0	3.4	1.2	3.5	3.8	5.6
14	3.6	3.3	3.9	2.5	2.4	7.3	4.0	3.3	1.2	2.0	3.9	4.9
15	3.6	6.7	3.7	2.5	2.6	7.4	3.4	2.6	1.5	0	3.8	4.1
16	3.7	10	3.5	2.5	2.2	15	3.1	2.9	4.0	0	3.7	3.2
17	3.8	4.0	3.4	2.5	2.0	11	3.2	3.0	5.3	0	3.6	3.6
18	3.7	3.9	3.2	2.5	2.1	9.9	3.3	2.7	5.7	0	3.7	3.7
19	3.7	8.5	3.0	2.5	2.2	8.9	3.4	2.8	8.4	.80	3.7	3.5
20	3.6	16	3.2	2.3	2.1	8.8	3.5	2.2	5.7	3.7	3.9	3.0
21	3.6	17	3.5	3.2	2.0	8.4	4.2	3.2	5.4	5.2	3.8	2.9
22	3.6	9.3	3.6	2.7	1.9	7.6	4.2	2.8	5.1	7.3	3.8	3.5
23	3.6	4.3	3.6	2.8	1.9	7.3	4.6	2.8	4.7	7.8	3.8	4.9
24	3.5	4.0	3.6	2.9	2.0	7.1	5.3	3.3	4.6	7.8	3.7	5.9
25	3.4	4.0	3.6	2.9	2.2	6.7	5.2	2.8	5.3	7.5	3.6	6.0
26	3.3	4.0	3.6	3.0	1.9	6.1	4.8	3.3	4.0	7.0	3.6	5.4
27	3.2	3.9	3.7	3.3	1.8	5.7	4.8	3.5	4.0	3.7	3.6	5.3
28	3.6	9.1	3.6	4.1	3.2	5.4	5.0	3.7	3.9	4.6	3.7	3.6
29	4.7	9.1	4.1	7.7	-----	4.8	4.9	3.3	3.1	2.6	3.7	4.7
30	4.9	3.7	4.1	6.4	-----	4.5	5.0	3.0	5.1	2.9	4.0	5.7
31	4.5	-----	4.1	6.1	-----	4.1	-----	3.2	-----	3.5	6.0	-----
TOTAL	110.8	154.9	114.4	106.4	71.1	213.5	122.3	104.6	108.3	117.00	117.9	158.8
MEAN	3.57	5.16	3.69	3.43	2.54	6.89	4.08	3.37	3.61	3.77	3.80	5.29
MAX	4.9	17	14	7.7	4.7	15	5.3	4.7	8.4	7.8	6.0	7.3
MIN	2.9	2.4	1.0	2.3	1.8	4.1	3.1	2.2	1.2	0	3.0	2.9
AC-FT	220	307	227	211	141	423	243	207	215	232	234	315

CAL YR 1966: TOTAL - MEAN - MAX - MIN - AC-FT -
WAT YR 1967: TOTAL 1,500.00 MEAN 4.11 MAX 17 MIN 0 AC-FT 2,980

SACRAMENTO RIVER BASIN

11-3650. PIT RIVER NEAR MONTGOMERY CREEK, CALIF.

LOCATION.--Lat 40°50'36" (revised), long 122°00'58", in SE $\frac{1}{4}$ sec.31, T.35 N., R.1 W., on right bank 0.5 mile upstream from Potem Creek, 1.9 miles downstream from Pit No. 7 dam and powerhouse, and 5.0 miles west of town of Montgomery Creek.

DRAINAGE AREA.--4,951 sq mi (revised), excluding Goose Lake basin.

RECORDS AVAILABLE.--October 1944 to September 1967 (monthly discharge only December 1964 to May 1965). Monthly discharge only for some periods, published in WSP 1315-A.

GAGE.--Graphic water-stage recorder. Datum of gage is 1,036 ft above mean sea level (levels by Pacific Gas and Electric Co.). October 1944 to Feb. 17, 1963, at site 1.9 miles upstream at different datum. Feb. 17, 1963, to May 21, 1965, at site 2.7 miles upstream at different datum.

EXTREMES.--Maximum daily discharge during year, 16,600 cfs Feb. 2; minimum daily, 42 cfs July 22.
1944-67: Maximum discharge, 37,100 cfs Dec. 23, 1955 (gage height, 14.12 ft, site and datum then in use); minimum daily, 42 cfs July 22, 1967.

REMARKS.--Flow regulated by many reservoirs and powerplants (total usable reservoir capacity, 337,000 acre-ft). Many diversions above station for irrigation. Diversion from McCloud River to Pit River began December 1965 (see sta. no. 3677.2). See schematic diagram for Pit and McCloud River basins. Records represent flow through Pit No. 7 powerplant and spill from Pit No. 7 Reservoir. Records of chemical analyses for the water year 1967 are published in Part 2 of this report.

COOPERATION.--Records and four discharge measurements furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project.

REVISIONS.--Revised figures of discharge, in cubic feet per second, for the water year 1966, superseding those published in Surface Water Records of California, Vol. 2, are given herewith:

Date	Discharge	Date	Discharge	Date	Discharge	Date	Discharge	Date	Discharge
1966		1966-Con.		1966-Con.		1966-Con.		1966-Con.	
Sept. 1	33,130	Sept. 7	2,420	Sept. 13	2,600	Sept. 19	2,220	Sept. 25	1,020
2	3,650	8	1,150	14	2,700	20	2,250	26	3,810
3	3,510	9	3,560	15	4,160	21	3,360	27	3,940
4	1,920	10	2,890	16	4,290	22	3,240	28	2,100
5	200	11	200	17	3,750	23	3,710	29	2,740
6	2,670	12	1,480	18	200	24	1,970	30	4,240

Date	Cfs-days	Maximum	Minimum	Mean	Runoff in ac-ft
September 1966.....	79,080	10,200	200	2,636	156,900
Water year 1965-66..				3,953	2,862,000

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,000	3,310	4,590	3,350	14,100	5,470	6,010	7,580	7,090	3,360	3,070	2,760
2	202	3,710	7,340	1,680	16,500	6,830	7,190	7,330	6,830	651	3,750	2,350
3	2,410	4,840	7,640	2,770	13,500	6,400	6,390	7,330	6,570	4,940	4,950	2,010
4	4,020	3,910	7,670	4,930	13,100	5,470	7,400	7,220	7,560	3,350	4,250	1,830
5	3,760	3,250	7,350	4,770	11,100	6,040	6,910	6,990	7,150	5,530	154	2,740
6	4,000	775	8,000	5,010	10,500	3,720	7,090	7,870	7,060	5,970	498	3,180
7	2,930	3,360	8,010	4,180	9,640	5,980	7,030	6,460	6,450	4,330	4,570	4,160
8	2,360	4,610	5,900	3,060	3,240	4,910	6,560	12,900	6,950	3,930	3,520	2,910
9	1,960	3,660	3,290	4,940	8,150	5,410	6,390	9,560	7,220	3,640	4,380	5,360
10	3,270	3,590	4,680	4,510	8,120	6,990	7,360	9,890	6,600	4,770	3,630	3,280
11	4,250	4,320	7,000	4,860	7,960	6,320	7,760	9,390	6,500	3,100	4,440	2,740
12	3,050	2,060	5,360	3,510	7,290	5,140	7,930	10,100	6,990	4,040	2,920	4,340
13	3,310	1,360	8,010	3,170	6,470	6,730	7,000	9,680	6,700	5,510	2,900	2,750
14	4,070	2,570	7,370	3,780	7,990	2,360	7,880	9,090	6,650	5,240	3,280	3,830
15	3,120	4,190	7,260	2,350	7,910	4,350	7,440	9,390	6,250	4,150	2,550	4,690
16	202	3,770	7,350	3,900	7,170	13,200	6,410	9,380	6,590	1,650	3,310	1,660
17	3,250	4,380	5,570	3,480	6,070	11,100	7,920	9,370	5,710	4,010	3,250	1,570
18	3,540	4,430	5,780	3,620	4,280	13,600	8,700	10,200	5,510	2,680	3,660	3,760
19	3,330	4,280	7,110	6,190	7,000	13,100	3,750	10,400	6,480	4,360	3,510	2,960
20	3,670	7,500	7,210	5,780	6,580	12,100	8,350	10,400	5,890	3,880	2,280	4,360
21	2,730	5,040	4,190	6,460	6,490	9,590	7,970	9,630	5,410	3,270	4,170	3,780
22	2,870	4,130	4,740	6,360	5,160	9,880	7,340	9,880	5,630	42	3,070	3,560
23	1,200	4,130	4,630	3,310	5,180	9,980	6,370	9,390	6,090	1,440	3,560	2,770
24	2,910	6,350	5,740	2,890	5,550	10,500	6,550	9,640	5,660	4,500	3,220	1,750
25	3,350	5,950	4,700	3,370	6,110	9,480	9,050	9,140	2,930	4,640	3,680	2,620
26	3,160	5,390	4,740	3,530	6,520	8,990	9,150	8,930	5,500	4,300	3,970	2,930
27	4,200	4,580	4,470	6,200	5,450	8,590	9,470	8,620	4,650	4,520	2,300	3,400
28	2,790	4,170	4,390	7,000	4,900	8,010	3,980	8,430	4,590	6,050	3,310	3,390
29	2,210	3,820	4,320	12,900	- - - -	8,000	8,730	8,220	4,920	3,490	3,160	3,510
30	550	3,820	4,360	14,400	- - - -	7,290	7,540	7,920	4,020	547	3,380	2,780
31	4,260	- - - -	4,890	15,900	- - - -	6,150	- - - -	7,910	- - - -	3,060	3,920	- - - -
Total	89,334	122,266	186,160	162,060	227,330	240,780	229,320	282,040	182,250	115,450	103,412	93,730
Mean	2,893	4,076	6,005	5,223	8,119	7,767	7,644	9,098	6,075	3,724	3,336	3,124
Max	4,260	7,500	8,010	15,900	16,600	13,600	9,470	12,900	7,560	6,050	4,950	5,360
Min	202	775	3,290	1,680	4,280	2,360	6,010	6,460	2,930	42	154	1,570
Ac-ft	178,200	242,500	369,200	321,400	450,800	477,500	454,800	559,400	361,500	229,000	205,100	185,900

Cal yr1966 : Total 1,570,984 Mean 4,304 Max 10,200 Min 200 Ac-ft 3,116,000
Wtr yr1967 : Total 2,034,632 Mean 5,574 Max 16,600 Min 42 Ac-ft 4,036,000

11-3675. MC CLOUD RIVER NEAR MC CLOUD, CALIF.

LOCATION.--Lat 41°11'20", long 122°03'50", in NE¼ sec.34, T.39 N., R.2 W., on right bank 0.4 mile downstream from Angel Creek and 6 miles southeast of McCloud.

DRAINAGE AREA.--358 sq mi.

RECORDS AVAILABLE.--April 1931 to September 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is 2,711.2 ft above mean sea level (river-profile survey).

AVERAGE DISCHARGE.--36 years, 908 cfs (657,400 acre-ft per year).

EXTREMES.--Maximum discharge during year, 2,310 cfs Dec. 5 (gage height, 3.23 ft); minimum daily, 728 cfs

Oct. 28-31, Nov. 1-5, 9, 10.

1931-67: Maximum discharge, 11,800 cfs Dec. 21, 1955 (gage heights, 9.42 ft in gage well, 10.7 ft from floodmarks), from rating curve extended above 4,500 cfs on basis of slope-area measurement of maximum flow; minimum, 524 cfs Nov. 23, 24, 1932.

REMARKS.--Records excellent. Two small diversions above station for irrigation, and one 22-inch pipe line for town of McCloud and millpond. See schematic diagram for Pit and McCloud River basins.

COOPERATION.--Water-stage recorder graph and 12 discharge measurements furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	744	728	936	822	1260	887	1130	1070	1560	1250	982	936
2	744	728	1280	815	1160	894	1110	1090	1520	1210	982	936
3	744	728	1310	815	1080	894	1100	1110	1450	1150	982	936
4	744	728	1670	815	1050	887	1100	1130	1450	1140	982	929
5	744	728	2140	809	1020	980	1120	1190	1470	1120	982	929
6	744	738	1480	803	990	874	1130	1250	1460	1110	974	929
7	744	738	1240	797	974	874	1130	1310	1490	1100	974	929
8	738	733	1120	797	958	874	1130	1430	1490	1090	974	922
9	738	728	1050	791	943	887	1150	1640	1480	1080	974	922
10	738	728	1010	791	943	958	1190	1740	1480	1070	966	922
11	738	733	966	791	929	958	1170	1590	1470	1070	966	922
12	738	738	982	791	936	958	1150	1480	1440	1060	958	922
13	738	750	1030	791	943	936	1160	1450	1410	1050	958	915
14	738	767	1070	791	936	922	1170	1470	1390	1050	950	915
15	738	867	1010	791	922	922	1160	1530	1390	1050	950	915
16	738	990	974	791	908	1460	1140	1660	1400	1050	950	915
17	738	815	950	785	908	1760	1150	1790	1410	1050	950	915
18	738	773	922	785	901	1500	1130	1840	1410	1050	950	915
19	738	828	915	791	894	1400	1110	2010	1470	1040	950	915
20	738	1460	908	797	987	1330	1090	2010	1480	1030	950	908
21	738	1270	887	791	987	1290	1090	2040	1430	1030	950	908
22	738	1010	880	791	880	1290	1090	2110	1370	1020	950	908
23	733	894	880	791	880	1500	1090	2150	1320	1020	950	908
24	733	854	867	791	887	1450	1090	2120	1290	1010	950	908
25	733	828	860	791	894	1350	1090	1950	1280	1010	950	901
26	733	809	854	791	880	1290	1110	1850	1260	1010	950	901
27	733	797	841	797	880	1250	1110	1840	1250	998	950	901
28	728	815	834	908	887	1250	1090	1950	1230	998	943	901
29	728	874	834	1340	- - - -	1210	1080	1840	1220	998	943	901
30	728	980	834	1450	- - - -	1190	1070	1760	1220	998	943	901
31	728	- - - -	828	1400	- - - -	1170	- - - -	1620	- - - -	990	943	- - - -
Total	22,855	25,057	32,362	26,600	26,617	35,295	33,630	50,920	41,990	32,902	29,726	27,485
Mean	737	835	1,044	858	951	1,139	1,121	1,643	1,400	1,061	959	916
Max	744	1,460	2,140	1,450	1,260	1,760	1,190	2,150	1,560	1,250	982	936
Min	728	728	828	785	880	874	1,070	1,070	1,220	990	943	901
Ac-ft	45,330	49,700	64,190	52,760	52,790	70,010	66,700	101,000	83,290	65,260	58,960	54,520

Cal yr 1966: Total 333,267 Mean 913 Max 2,140 Min 728 Ac-ft 661,000
 Wtr yr 1967: Total 385,439 Mean 1,056 Max 2,150 Min 728 Ac-ft 764,500

Peak discharge (base, 1,500 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-20	1400	2.57	1,670	3-23	1700	2.46	1,570
12-05	0900	3.23	2,310	5-10	0700	2.67	1,760
1-30	2200	2.38	1,500	5-23	0900	3.13	2,210
3-16	2400	2.88	1,960	6-20	0400	2.39	1,510

SACRAMENTO RIVER BASIN

11-3677.2. MCCLLOUD-IRON CANYON DIVERSION TUNNEL NEAR MCCLLOUD, CALIF.

LOCATION.--Lat 41°08'06", long 122°04'26", in SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.22, T.38 N., R.2 W., on left bank of McCloud Reservoir, 8.8 miles southeast of McCloud.

RECORDS AVAILABLE.--December 1965 to September 1967.

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

EXTREMES.--1965-67: Maximum daily discharge, 1,890 cfs May 20-22, June 1-3, 10, 1967; no flow Dec. 1, 7-10, 1965, June 2, 28, 29, 1966.

REMARKS.--Water is diverted from McCloud Reservoir (see sta. no. 3677.4) to Iron Canyon Reservoir (see sta. no. 3639.2) and thence into James B. Black powerplant (see sta. no. 3639.1) on the Pit River. Diversion began Dec. 1, 1965. See schematic diagram for Pit and McCloud River basins.

COOPERATION.--Records furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	812	656	1160	1230	1290	1250	1690	1430	1890	1630	1040	1040
2	802	671	1180	1140	1410	1270	1620	1620	1890	1500	1070	963
3	795	735	1350	1100	1440	1240	1620	1550	1890	1450	1090	375
4	790	838	1510	1060	1370	1180	1570	1550	1370	1430	1110	302
5	788	851	1530	1050	1310	1160	1670		1380	1410	1080	773
6	788	832	1370	1100	1270	1180	1630	1530	1380	1480	1000	851
7	778	832	1280	1100	1330	1140	1580	1490	1880	1530	938	934
8	773	730	1190	1060	1400	1110	1570	1530	1880	1530	1050	1000
9	778	918	1100	1040	1400	1090	1610	1630	1880	1480	1130	992
10	773	960	1030	1080	1450	1070	1610	1680	1890	1410	1130	910
11	793	901	950	1110	1410	1090	1620	1690	1880	1350	1100	858
12	798	807	970	1090	1390	1090	1630	1710	1880	1340	1070	940
13	807	656	1070	1070	1410	1090	1580	1730	1880	1370	952	1050
14	812	590	1170	1020	1450	1080	1620	1700	1370	1400	896	1160
15	775	676	1260	996	1390	1080	1650	1740	1370	1400	918	1240
16	640	760	1340	993	1400	1080	1570	1760	1870	1330	929	1170
17	610	795	1400	1020	1340	1170	1520	1700	1860	1270	945	1020
18	682	817	1460	1030	1260	1320	1590	1810	1850	1240	954	982
19	705	330	1540	1060	1250	1420	1640	1840	1850	1190	964	1070
20	751	954	1580	1160	1260	1490	1620	1890	1850	1170	914	1150
21	768	1120	1550	1100	1320	1430	1610	1890	1850	1180	913	1170
22	710	1260	1500	936	1300	1380	1600	1890	1850	1140	953	1150
23	691	1380	1450	858	1280	1350	1510	1870	1860	1080	1020	1060
24	735	1350	1420	746	1290	1360	1390	1870	1850	1030	1060	910
25	751	1280	1300	708	1270	1430	1460	1870	1830	1140	1080	903
26	773	1270	1360	688	1260	1500	1520	1840	1810	1140	1060	974
27	768	1290	1340	679	1270	1590	1540	1860	1790	1220	1030	992
28	759	1290	1320	722	1230	1670	1530	1830	1780	1220	1020	1030
29	732	1240	1280	793	- - - - -	1730	1580	1860	1780	1200	1070	1070
30	677	1190	1240	945	- - - - -	1650	1520	1840	1740	1100	1070	1000
31	650	- - - - -	1240	1150	- - - - -	1700	- - - - -	1870		1030	1050	- - - - -
Total	23,264	28,479	40,440	30,339	37,450	40,390	47,570	53,590	55,630	40,440	31,616	30,044
Mean	750	949	1305	995	1338	1303	1586	1729	1854	1305	1020	1001
Max	812	1380	1580	1230	1450	1730	1690	1890	1890	1630	1130	1240
Min	610	590	950	679	1230	1070	1390	1430	1740	1030	896	773
Ac-ft	46,140	56,490	80,210	61,170	74,280	80,110	94,350	106,300	110,300	80,210	62,710	59,590

Cal yr 1966: Total 373,293 Mean 1,023 Max 1,750 Min 0 Ac-ft 740,400
Wtr yr 1967: Total 459,749 Mean 1,260 Max 1,330 Min 590 Ac-ft 911,900

11-3677.6. MCCLOUD RIVER BELOW MCCLOUD DAM, NEAR MCCLOUD, CALIF.

LOCATION.--Lat 41°07'44", long 122°04'08", in SW¼NE¼ sec.27, T.38 N., R.2 W., on left bank 0.1 mile downstream from Lizard Creek, 0.6 mile downstream from McCloud Dam, and 9 miles southeast of McCloud.

DRAINAGE AREA.--404 sq mi.

RECORDS AVAILABLE.--April 1966 to September 1967 (low flow only).

GAGE.--Graphic water-stage recorder. Datum of gage is 2,401.76 ft above mean sea level (levels by Pacific Gas and Electric Co.).

REMARKS.--Records good. Flow regulated by McCloud Reservoir (see sta. no. 3677.4) since November 1965. Most of McCloud River runoff is diverted from reservoir through tunnel to Iron Canyon Reservoir (see sta. no. 3639.2) in Pit River basin. This station records fishwater release. See schematic diagram for Pit and McCloud River basins.

COOPERATION.--Water-stage recorder graph and 11 discharge measurements furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	205	195	172	117	143	94	47	68	-	170	188	190
2	205	195	190	115	139	94	45	78	-	170	188	190
3	205	195	190	115	100	94	44	78	84	170	188	190
4	199	195	212	115	65	92	44	78	102	168	188	190
5	199	195	214	115	65	92	44	61	98	172	188	190
6	205	195	151	115	64	95	45	57	98	176	188	190
7	199	195	40	115	64	98	45	58	98	162	188	190
8	193	193	38	113	63	98	44	54	98	154	188	190
9	193	190	38	121	63	98	42	52	110	160	188	190
10	195	190	38	128	47	66	44	53	117	170	188	193
11	197	190	38	128	41	40	44	52	118	178	188	193
12	197	190	49	127	41	39	43	51	117	178	188	193
13	197	190	75	127	41	44	42	50	118	178	188	193
14	197	186	78	127	41	85	44	50	123	178	188	193
15	197	164	64	127	40	86	49	51	125	178	188	193
16	197	132	41	125	39	143	47	54	130	176	188	193
17	197	128	40	125	41	102	48	69	134	180	188	193
18	199	150	38	125	42	63	48	94	136	182	190	193
19	199	174	51	123	41	59	47	-	137	184	190	193
20	199	197	52	125	60	56	46	-	139	186	190	193
21	199	190	62	125	74	56	54	-	143	184	190	195
22	197	184	72	123	73	56	62	-	145	184	190	197
23	197	178	84	123	73	62	61	-	149	184	190	197
24	197	176	100	123	73	56	61	-	154	184	190	197
25	197	174	98	123	73	53	61	-	152	184	190	197
26	197	172	98	125	73	52	61	-	156	184	190	197
27	197	170	107	127	86	51	62	-	160	184	190	197
28	195	170	118	132	94	50	62	-	164	186	190	197
29	195	172	118	154	- - - - -	48	61	-	166	188	190	199
30	195	170	117	150	- - - - -	48	61	-	168	188	190	199
31	195	- - - - -	117	149	- - - - -	48	- - - - -	-	- - - - -	188	190	- - - - -
Total	6135	5395	2900	3882	1859	2217	1508	-	-	5508	5856	5805
Mean	198	180	93.5	125	66.4	71.5	50.3	-	-	178	189	194
Max	205	197	214	154	143	143	62	-	-	188	190	199
Min	193	128	38	113	39	39	42	50	84	154	188	190
Ac-ft	12170	10700	5750	7700	3690	4400	2990	-	-	10920	11620	11510

Cal yr 1966: Total - Mean - Max - Min - Ac-ft -
 Wtr yr 1967: Total - Mean - Max - Min - Ac-ft -

SACRAMENTO RIVER BASIN

11-3678. MCCLLOUD RIVER AT AH-DI-NA, NEAR MCCLLOUD, CALIF.

LOCATION.--Lat 41°06'39", long 122°05'42", in NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.33, T.38 N., R.2 W., on right bank at Ah-Di-Na, 1.8 miles downstream from Squirrel Creek, 3.9 miles downstream from McCloud Dam, and 9.6 miles south of McCloud.

DRAINAGE AREA.--427 sq mi.

RECORDS AVAILABLE.--October 1964 to September 1967.

GAGE.--Graphic water-stage recorder. Altitude of gage is 2,160 ft (from topographic map).

EXTREMES.--Maximum discharge during year, 3,190 cfs May 19 (gage height, 5.44 ft); minimum daily, 148 cfs Mar. 12.

1964-67: Maximum discharge, 9,660 cfs Dec. 22, 1964 (gage height, 9.43 ft (revised) in gage well, from floodmarks), from rating curve extended above 3,000 cfs; minimum daily, 148 cfs Jan. 23, 1966, Mar. 12, 1967. Flood of Dec. 21, 1955, reached a stage of 12.5 ft (discharge, 16,800 cfs, from rating curve extended above 3,000 cfs).

REMARKS.--Records good. Flow regulated by McCloud Reservoir (see sta. no. 3677.5) since November, 1965. Diversion to Iron Canyon Reservoir (see sta. no. 3639.2) through McCloud River diversion tunnel (see sta. no. 3677.2) started Dec. 1, 1965. See schematic diagram for Pit and McCloud River basins.

COOPERATION.--Water-stage recorder graph and 11 discharge measurements furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	205	214	444	176	580	179	176	163	307	211	208	202
2	205	214	1,110	174	476	176	163	182	333	208	208	211
3	205	214	910	171	369	174	160	190	211	205	209	214
4	205	214	1,670	168	297	171	163	211	223	205	211	214
5	211	214	1,520	168	280	168	174	233	217	208	209	214
6	220	223	710	165	266	168	217	266	214	211	208	214
7	217	214	410	163	252	171	211	327	211	211	205	214
8	211	214	297	160	239	168	199	431	208	208	205	214
9	211	211	256	165	230	171	211	503	217	208	205	214
10	214	211	230	171	211	217	276	494	220	208	205	214
11	214	214	208	168	202	168	276	393	217	208	202	214
12	214	220	217	168	202	148	236	327	211	208	202	211
13	214	249	280	165	211	150	217	297	205	208	202	211
14	214	276	305	165	205	179	217	297	205	210	202	211
15	214	369	266	165	196	179	211	338	205	210	202	211
16	214	382	214	165	182	1,090	202	414	205	208	205	211
17	217	208	190	165	174	816	208	476	208	205	205	211
18	214	193	176	163	163	575	193	530	205	205	208	211
19	217	328	170	163	160	554	184	822	208	208	205	211
20	217	832	172	171	168	431	176	1,230	205	214	205	211
21	214	690	174	199	176	393	174	1,330	205	211	205	211
22	214	472	176	184	174	365	182	1,210	202	208	205	211
23	214	357	184	176	171	449	179	1,440	205	208	205	211
24	214	305	196	176	168	418	176	1,250	205	208	202	211
25	214	276	187	171	165	342	179	918	202	205	202	211
26	214	263	179	174	163	290	184	836	205	209	202	211
27	214	246	187	193	168	256	190	791	205	202	202	209
28	214	266	193	327	179	243	182	841	208	205	199	208
29	214	330	190	892	-----	217	174	720	208	208	199	208
30	214	338	184	760	-----	211	165	540	208	208	199	211
31	214	-----	182	720	-----	193	-----	435	-----	205	199	-----
Total	6,607	8,957	11,787	7,311	6,432	9,430	5,855	18,445	6,488	6,443	6,328	6,339
Mean	213	299	380	236	230	304	195	595	216	208	204	211
Max	220	832	1,670	892	580	1,090	276	1,440	333	214	211	214
Min	205	193	170	160	160	148	160	168	202	202	199	202
Ac-ft	13,100	17,770	23,380	14,500	12,760	18,700	11,610	36,590	12,870	12,780	12,550	12,570
Mean †	903	1,231	1,766	1,230	1,464	1,829	1,691	2,470	1,986	1,406	1,223	1,171
Ac-ft †	55,540	73,250	108,600	75,640	81,290	112,500	100,600	151,800	118,200	86,460	75,170	69,660

Calendar year 1966	Total	87,350	Mean	239	Max	1,670	Min	148	Ac-ft	173,300	Mean †	1,260	Ac-ft †	912,400
Water year 1966-67	Total	100,422	Mean	275	Max	1,670	Min	148	Ac-ft	199,200	Mean †	1,531	Ac-ft †	1,109,000

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

11-3680. MCCLOUD RIVER ABOVE SHASTA LAKE, CALIF.

LOCATION.--Lat 40°57'30", long 122°13'05", in NW¼ sec.28, T.36 N., R.3 W., on right bank just upstream from Shasta Lake, 0.2 mile downstream from Big Bollibokka Creek, and 11.3 miles east of Lamaine.

DRAINAGE AREA.--604 sq mi.

RECORDS AVAILABLE.--October 1945 to September 1967. Published as "above Shasta Reservoir" prior to 1950.

GAGE.--Graphic water-stage recorder. Datum of gage is 1,100.00 ft above mean sea level (levels by Bureau of Reclamation).

AVERAGE DISCHARGE.--20 years (1945-65, prior to regulation by McCloud Reservoir and diversion to Pit River basin), 1,699 cfs (1,230,000 acre-ft per year).

EXTREMES.--Maximum discharge during year, 14,100 cfs Dec. 5 (gage height, 19.94 ft); minimum daily, 273 cfs Oct. 1, 3, 4.

1945-67: Maximum discharge, 45,200 cfs Dec. 22, 1955 (gage height, 28.20 ft), from rating curve extended above 6,400 cfs on basis of slope-area measurement of maximum flow; minimum daily, 273 cfs Sept. 30, Oct. 1, 3, 4, 1966.

REMARKS.--Records excellent. Flow partially regulated by McCloud Reservoir (see sta. no. 3677.4) since Nov. 3, 1965. Diversions to Iron Canyon Reservoir (see sta. no. 3639.2) began Dec. 1, 1965. See schematic diagram for Pit and McCloud River basins. Records of chemical analyses for the water year 1967 are published in Part 2 of this report.

COOPERATION.--Water-stage recorder graph and 12 discharge measurements furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	273	281	1,360	520	3,410	637	1,100	1,040	932	480	352	317
2	277	281	5,000	505	2,570	631	1,070	1,020	864	475	348	321
3	273	281	4,770	500	2,080	608	1,100	1,030	661	475	343	321
4	273	281	8,280	495	1,780	586	1,120	1,080	661	470	338	317
5	277	281	9,110	485	1,660	570	1,350	1,140	655	465	338	321
6	281	343	4,020	470	1,580	554	2,140	1,200	649	465	338	321
7	277	321	2,470	455	1,480	548	2,090	1,320	620	455	338	317
8	277	301	1,780	450	1,360	537	1,750	1,580	614	445	338	317
9	277	293	1,470	445	1,260	537	1,680	1,300	643	440	338	317
10	277	293	1,410	450	1,200	1,080	2,140	1,350	603	435	334	321
11	281	305	1,310	435	1,150	1,130	2,340	1,550	581	430	330	317
12	281	370	1,270	430	1,130	975	1,960	1,350	570	420	325	313
13	281	515	1,400	425	1,120	882	1,730	1,210	559	420	325	309
14	281	803	1,520	420	1,070	888	1,580	1,160	542	415	321	309
15	285	2,390	1,380	415	996	931	1,470	1,200	537	410	321	309
16	285	2,140	1,180	410	927	8,370	1,340	1,320	526	406	321	309
17	285	936	1,040	402	862	5,980	1,540	1,400	526	406	321	309
18	285	581	934	402	836	3,540	1,560	1,470	515	397	321	325
19	289	1,280	862	402	790	2,790	1,470	1,660	520	392	325	317
20	293	4,800	810	500	745	2,870	1,380	2,160	520	392	321	313
21	289	4,140	758	882	739	2,760	1,330	2,210	510	388	321	305
22	289	2,750	733	771	709	2,450	1,330	2,230	505	388	321	309
23	289	1,570	703	637	691	3,010	1,320	2,130	495	384	317	305
24	293	1,140	679	625	691	2,610	1,290	2,150	500	370	317	305
25	293	914	655	576	709	2,150	1,290	1,300	490	366	325	305
26	289	790	625	620	655	1,910	1,320	1,520	490	361	330	301
27	289	709	603	771	637	1,560	1,360	1,450	490	356	330	301
28	289	758	598	2,220	643	1,440	1,280	1,430	480	361	325	297
29	289	968	576	6,430	- - - - -	1,300	1,200	1,290	480	366	321	297
30	285	968	559	4,700	- - - - -	1,250	1,110	1,200	480	361	317	297
31	285	- - - - -	537	4,990	- - - - -	1,200	- - - - -	1,100	- - - - -	352	317	- - - - -
Total	9,787	31,683	58,402	32,233	33,480	56,184	44,740	46,050	17,213	12,746	10,177	9,342
Mean	283	1,056	1,984	1,040	1,196	1,812	1,491	1,485	574	411	329	311
Max	293	4,800	9,110	6,430	3,410	8,370	2,340	2,230	932	480	352	325
Min	273	281	537	402	637	537	1,070	1,020	480	352	317	297
Ac-ft	17,430	62,340	115,900	63,340	66,410	111,400	88,740	91,340	34,150	25,280	20,190	18,530

Cal yr 1966: Total 294,143 Mean 306 Max 9,110 Min 273 Ac-ft 593,400
 Wtr yr 1967: Total 361,047 Mean 989 Max 9,110 Min 273 Ac-ft 716,100

SACRAMENTO RIVER BASIN

RESERVOIRS IN PIT AND MCCLLOUD RIVER BASINS, CALIF.

11-3614. LAKE BRITTON NEAR BURNEY.--Lat 41°01'20", long 121°40'32", in SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.30, T.37 N., R.3 E., at control house on right bank 200 ft above dam on Pit River, 1.1 miles downstream from Clark Creek, 1.3 miles northwest of Burney Falls, and 9 miles north of Burney. Drainage area, 4,606 sq mi. Records available, October 1965 to September 1967. Datum of gage is at mean sea level (levels by Pacific Gas and Electric Co.). Maximum contents during year, 13,500 acre-ft Aug. 6 (elevation, 2,756.25 ft); minimum, 1,000 acre-ft Jan. 28 (elevation, 2,745.05 ft). Maximum contents during period 1965-67, 14,200 acre-ft May 31, 1966 (elevation, 2,756.81 ft); minimum, 1,000 acre-ft Jan. 28, 1967 (elevation, 2,745.05 ft).

Reservoir is formed by gravity-type concrete dam. Storage began July 15, 1925. Maximum storage capacity, 40,600 acre-ft. Record of contents furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project. See schematic diagram for Pit and McCloud River basins.

11-3677.4. MCCLLOUD RESERVOIR NEAR MCCLLOUD.--Lat 41°08'06", long 122°04'26", in SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.22, T.38 N., R.2 W., on McCloud Dam near spillway on McCloud River, 200 ft downstream from Panther Creek, and 8.8 miles southeast of McCloud. Drainage area, 403 sq mi. Records available, October 1965 to September 1967. Datum of gage is at mean sea level (levels by Pacific Gas and Electric Co.). Maximum contents during year, 35,400 acre-ft May 20, 22 (elevation, 2,680.40 ft); minimum, 15,700 acre-ft Jan. 22, 23 (elevation, 2,632.60 ft). Maximum contents during the period 1965-67, 35,400 acre-ft Dec. 14, 1965, May 20, 22, 1967 (elevation, 2,680.40 ft); minimum since storage pool first filled, 15,700 acre-ft Jan. 22, 1967 (elevation, 2,632.60 ft).

Reservoir is formed by rock-fill dam completed in 1965. Capacity, 36,500 acre-ft between elevations 2,571.30 (invert of sluice pipe) and 2,682.50 ft (top of radial gates). No dead storage. Water is diverted from McCloud Reservoir through a diversion tunnel to Iron Canyon Reservoir and thence into the Pit River. Record of contents furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project. See schematic diagram for Pit and McCloud River basins.

11-3639.2. IRON CANYON RESERVOIR NEAR BIG BEND.--Lat 41°02'41", long 121°58'52", in SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec.21, T.37 N., R.1 W., in control house on left bank 500 ft above Iron Canyon Dam on Iron Canyon Creek, 3.7 miles northwest of Big Bend. Drainage area, 11.5 sq mi. Records available, December 1965 to September 1967. Datum of gage is at mean sea level (levels by Pacific Gas and Electric Co.). Maximum contents during year, 17,600 acre-ft Dec. 11 (elevation, 2,650.50 ft); minimum, 2,860 acre-ft May 23, 24, 29, June 2, 7, 9, 14, 23, 24 (elevation, 2,590.00 ft). Maximum contents during period 1965-67, 17,600 acre-ft Dec. 11, 1966 (elevation, 2,650.50 ft); minimum since initial operation of reservoir, 2,860 acre-ft May 23, 24, 29, June 2, 7, 9, 14, 23, 24, 1966 (elevation, 2,590.00 ft).

Reservoir is formed by rockfill dam completed in 1965. Capacity is 24,200 acre-ft between elevations 2,525.00 (invert of sluice pipe) and 2,665.00 ft (crest of spillway). No dead storage. Water is diverted from McCloud Reservoir through a tunnel to Iron Canyon Reservoir and thence into the Pit River via a powerplant. Record of contents furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project. See schematic diagram for Pit and McCloud River basins.

MONTH-END ELEVATIONS AND CONTENTS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Date	Elevation (feet)	Contents (acre- feet)	Change in contents (acre- feet)	Elevation (feet)	Contents (acre- feet)	Change in contents (acre- feet)	Elevation (feet)	Contents (acre- feet)	Change in contents (acre- feet)
	Lake Britton			McCloud Reservoir			Iron Canyon Reservoir		
Sept. 30	2,754.05	10,800	-	2,653.20	23,000	-	2,636.40	12,500	-
Oct. 31	2,750.90	7,150	-3,650	2,643.40	19,300	-3,700	2,631.80	11,100	-1,400
Nov. 30	2,747.65	3,620	-3,530	2,641.90	18,700	- 600	2,606.40	5,130	-5,970
Dec. 31	2,746.14	2,090	-1,530	2,655.10	23,700	+5,000	2,614.90	6,780	+1,650
Calendar year 1966			+1,430			- 900			-5,420
Jan. 31	2,754.75	11,700	+9,610	2,655.00	23,700	0	2,616.60	7,150	+ 370
Feb. 28	2,752.15	8,570	-3,130	2,639.60	18,000	-5,700	2,601.30	4,300	-2,850
Mar. 31	2,752.50	8,980	+ 410	2,672.80	31,600	+13,600	2,600.70	4,220	- 80
Apr. 30	2,753.64	10,300	+1,320	2,661.10	26,300	-5,300	2,609.80	5,750	+1,530
May 31	2,753.06	9,630	- 670	2,680.00	35,200	+8,900	2,591.00	2,970	-2,780
June 30	2,749.70	5,820	-3,810	2,669.80	30,200	-5,000	2,596.60	3,650	+ 680
July 31	2,755.00	12,000	+6,180	2,654.90	23,700	-6,500	2,628.20	10,100	+6,450
Aug. 31	2,548.60	4,630	-7,370	2,654.70	23,600	- 100	2,626.80	9,690	- 410
Sept. 30	2,753.95	10,700	+6,070	2,648.30	21,100	-2,500	2,627.00	9,750	+ 60
Water year 1966-67			- 100			-1,900			-2,750

SACRAMENTO RIVER BASIN

789

11-3700. SHASTA LAKE NEAR REDDING, CALIF.

LOCATION.--Lat 40°43'10", long 122°25'10", in NW $\frac{1}{4}$ sec.15, T.33 N., R.5 W., in Shasta Dam on Sacramento River near right bank, 2 miles downstream from Squaw Creek and 9.5 miles north of Redding.

DRAINAGE AREA.--6,421 sq mi, excluding Goose Lake basin.

RECORDS AVAILABLE.--November 1942 to September 1967. Prior to 1950, published as Shasta Reservoir near Redding.

GAGE.--Graphic water-stage recorder. Datum of gage is at mean sea level (levels by Bureau of Reclamation). Prior to July 10, 1944, staff gage at various sites near dam at same datum.

EXTREMES.--Maximum contents during year, 4,550,300 acre-ft May 19 (elevation, 1,066.94 ft); minimum, 3,130,600 acre-ft Nov. 10 (elevation, 1,013.41 ft).

1942-67: Maximum contents, 4,550,300 acre-ft May 19, 1967 (elevation, 1,066.94 ft); minimum since reservoir first filled, 2,144,900 acre-ft Nov. 22, 1961 (elevation, 965.54 ft).

REMARKS.--Reservoir 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 (bottom of lowest set of river outlets) and 1,067.0 ft (top of flashboard gates on drum-type spillway gates) above mean sea level. Dead storage, 115,700 acre-ft. Installation of flashboard gates on top of drum gates completed Nov. 12, 1964. Gates increased elevation to 1,067.0 ft, total capacity, 4,552,100 acre-ft. All water passes down the Sacramento River, most of which is through powerplant at dam. Records, including extremes, represent total contents at 2400 hours. See schematic diagram for Pit and McCloud River basins.

COOPERATION.--Records furnished by Bureau of Reclamation.

Contents, in acre-feet at 2400 hours, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3,259.3	3,145.8	3,342.1	3,158.9	3,503.2	3,353.5	4,113.8	4,465.9	4,527.1	4,432.8	4,108.2	3,752.9
2	3,251.4	3,143.7	3,385.0	3,149.1	3,483.2	3,358.6	4,139.0	4,467.1	4,525.6	4,417.9	4,097.6	3,740.8
3	3,247.1	3,142.5	3,414.1	3,143.7	3,458.7	3,363.3	4,160.0	4,467.4	4,522.9	4,410.6	4,089.2	3,728.5
4	3,247.5	3,140.6	3,489.4	3,145.5	3,428.9	3,366.0	4,182.3	4,467.7	4,521.5	4,399.2	4,079.2	3,715.1
5	3,244.9	3,139.2	3,548.7	3,143.4	3,393.9	3,369.9	4,210.9	4,470.3	4,520.0	4,392.5	4,061.4	3,703.1
6	3,245.4	3,135.5	3,513.4	3,153.0	3,360.3	3,370.6	4,252.2	4,476.2	4,518.5	4,386.7	4,044.6	3,691.9
7	3,243.9	3,132.9	3,462.5	3,155.9	3,340.1	3,377.5	4,274.9	4,482.1	4,516.1	4,378.9	4,035.5	3,682.7
8	3,240.9	3,132.2	3,390.7	3,156.3	3,333.6	3,380.4	4,288.9	4,495.1	4,513.5	4,369.6	4,024.2	3,672.1
9	3,236.5	3,130.0	3,315.9	3,160.8	3,332.6	3,387.0	4,303.9	4,513.8	4,520.9	4,358.3	4,015.4	3,666.9
10	3,234.4	3,130.6	3,273.7	3,165.2	3,333.1	3,408.7	4,324.1	4,527.7	4,520.0	4,348.7	4,004.7	3,657.8
11	3,235.1	3,132.7	3,271.0	3,170.6	3,333.3	3,428.4	4,345.8	4,535.1	4,519.7	4,333.3	3,995.1	3,648.3
12	3,232.5	3,133.4	3,266.5	3,174.2	3,331.9	3,442.1	4,364.7	4,539.6	4,520.9	4,329.3	3,983.1	3,640.8
13	3,231.5	3,135.0	3,272.0	3,176.5	3,329.2	3,459.0	4,372.2	4,537.5	4,520.0	4,322.1	3,971.1	3,629.7
14	3,230.8	3,147.9	3,277.3	3,179.8	3,331.4	3,466.9	4,380.6	4,535.7	4,519.4	4,315.2	3,959.9	3,622.2
15	3,229.4	3,177.3	3,280.4	3,181.0	3,333.8	3,481.9	4,386.7	4,536.0	4,517.6	4,305.7	3,946.0	3,616.3
16	3,222.0	3,196.6	3,283.3	3,184.8	3,334.3	3,585.1	4,389.3	4,537.8	4,516.7	4,291.2	3,934.4	3,605.3
17	3,218.7	3,204.0	3,281.2	3,187.6	3,333.8	3,650.6	4,407.1	4,542.3	4,513.8	4,281.5	3,921.9	3,593.8
18	3,213.2	3,203.5	3,277.8	3,190.9	3,329.4	3,702.6	4,417.9	4,546.7	4,510.5	4,268.8	3,911.7	3,586.3
19	3,217.2	3,234.2	3,275.9	3,200.6	3,329.7	3,744.2	4,428.1	4,550.3	4,503.7	4,258.5	3,899.8	3,579.2
20	3,216.8	3,296.6	3,270.1	3,222.0	3,331.1	3,786.5	4,433.9	4,550.0	4,506.7	4,248.8	3,885.8	3,574.1
21	3,211.5	3,336.7	3,256.2	3,256.9	3,333.1	3,823.6	4,433.6	4,548.2	4,502.5	4,233.0	3,875.9	3,568.0
22	3,205.9	3,359.1	3,243.7	3,275.9	3,334.5	3,857.2	4,444.2	4,549.1	4,496.9	4,220.3	3,863.8	3,562.1
23	3,197.8	3,366.2	3,230.3	3,284.0	3,335.7	3,894.1	4,443.3	4,547.0	4,493.6	4,204.4	3,852.9	3,554.3
24	3,190.2	3,364.0	3,221.8	3,294.2	3,340.4	3,926.2	4,443.0	4,540.8	4,489.8	4,194.8	3,841.7	3,545.4
25	3,184.3	3,362.8	3,209.6	3,302.4	3,343.8	3,955.3	4,448.6	4,534.8	4,478.9	4,186.3	3,830.5	3,537.3
26	3,178.4	3,359.1	3,197.1	3,315.4	3,347.9	3,982.2	4,454.5	4,529.5	4,472.7	4,176.1	3,820.7	3,529.9
27	3,175.6	3,351.3	3,185.3	3,337.7	3,350.3	4,005.8	4,461.5	4,526.8	4,466.5	4,166.5	3,807.4	3,523.4
28	3,169.2	3,348.2	3,174.9	3,386.5	3,350.6	4,028.9	4,465.3	4,526.2	4,459.2	4,159.8	3,796.0	3,518.1
29	3,162.4	3,343.8	3,167.8	3,461.5	-----	4,050.7	4,467.7	4,524.4	4,452.4	4,150.2	3,785.4	3,512.8
30	3,152.3	3,337.7	3,164.3	3,490.7	-----	4,077.0	4,467.1	4,524.4	4,443.9	4,133.3	3,774.6	3,505.8
31	3,150.5	-----	3,163.1	3,511.3	-----	4,099.2	-----	4,523.5	-----	4,120.2	3,765.0	-----
(†)	1,014.26	1,022.10	1,014.80	1,029.12	1,022.63	1,051.30	1,064.13	1,066.04	1,063.34	1,052.05	1,038.96	1,028.90
(‡)	-112.4	-187.2	-174.6	+343.2	-160.7	+743.6	+367.9	+56.4	-79.6	+323.7	-355.2	-259.2
(††)	8,530	3,100	1,630	2,180	4,010	3,640	1,900	12,810	12,370	16,340	16,510	12,740
Max	3,259.3	3,366.2	3,548.7	3,511.3	3,503.2	4,099.2	4,467.7	4,550.3	4,527.1	4,432.8	4,108.2	3,752.9
Min	3,150.5	3,130.6	3,163.1	3,143.7	3,329.2	3,353.5	4,113.8	4,465.9	4,443.9	4,120.2	3,765.0	3,505.8
Calendar year 1966.....	†	-31.1		Max	4,494.2		Min	3,130.6				
Water year 1966-67.....	‡	+242.9		Max	4,550.3		Min	3,130.6				

† Elevation, in feet, at end of month.

‡ Change in contents, in thousands of acre-feet.

†† Evaporation in acre-feet.

SACRAMENTO RIVER BASIN

11-3705. SACRAMENTO RIVER AT KESWICK, CALIF.

LOCATION.--Lat 40°36'05", long 122°26'35", in SW¼NW¼ sec.28, T.32 N., R.5 W., on right bank 0.4 mile upstream from Middle Creek, 0.8 mile downstream from Keswick Dam, 1.6 miles downstream from Keswick, and 10 miles downstream from Shasta Dam.

DRAINAGE AREA.--6,468 sq mi, excluding Goose Lake basin.

RECORDS AVAILABLE.--October 1938 to September 1967. Monthly discharge only for some periods, published in WSP 1315-A.

GAGE.--Graphic water-stage recorder. Datum of gage is 479.81 ft above mean sea level, datum of 1929. Prior to Oct. 1, 1939, at site 1.5 miles upstream at datum 20.2 ft higher and Oct. 1, 1939, to Apr. 30, 1942, at site 1.5 miles upstream at datum 15.2 ft higher. Since Aug. 20, 1960, auxiliary graphic water-stage recorder at city of Redding pumping 2.1 miles downstream.

AVERAGE DISCHARGE.--29 years, 8,374 cfs (6,063,000 acre-ft per year), adjusted for change in contents and evaporation from Shasta Lake and transbasin diversion into Keswick Reservoir.

EXTREMES.--Maximum discharge during year, 56,200 cfs Dec. 9 (gage height, 27.95 ft); minimum daily, 3,820 cfs Jan. 12-15, 17.

1938-43 (prior to regulation by Shasta Lake): Maximum discharge, 186,000 cfs Feb. 23, 1940 (gage height, 47.2 ft, site and datum then in use), from rating curve extended above 75,000 cfs on basis of peak discharge at Kennet plus 4,000 cfs estimated inflow; minimum observed, 2,730 cfs Aug. 22, 1939.

1944-67: Maximum discharge, 78,800 cfs Feb. 21, 1958 (gage height, 31.55 ft); minimum, 154 cfs May 15, 1948.

REMARKS.--Records good. Flow regulated by Shasta Lake beginning Dec. 30, 1943 (see sta. no. 3700). Diurnal fluctuations from Shasta powerplant re-regulated by Keswick Reservoir (capacity, 4,170 acre-ft between normal operation elevations 579.0 and 586.0 ft) and powerplant. No diversion for irrigation between Shasta Dam and station at Keswick. Since December 1963, water is released from Whiskeytown Lake (see sta. no. 3717) at lat 40°37'03", long 122°31'31", through a tunnel to Spring Creek powerplant (see sta. no. 3716) and then into Keswick Reservoir. See schematic diagram for Pit and McCloud River basins. Records of chemical analyses for the water year 1967 are published in Part 2 of this report.

COOPERATION.--Twelve discharge measurements furnished by Bureau of Reclamation.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7,690	7,590	13,500	8,320	42,500	8,120	5,290	14,600	14,000	12,900	12,800	12,400
2	7,720	7,690	14,500	8,320	42,000	8,070	5,200	13,900	13,900	12,900	12,800	12,400
3	7,670	7,690	15,000	7,640	41,800	7,790	5,100	14,000	13,900	12,900	12,800	12,400
4	7,690	7,690	16,300	6,530	41,700	7,500	5,180	13,400	13,900	12,900	12,900	12,400
5	7,690	7,700	26,400	5,510	41,400	7,450	5,240	12,300	13,900	12,900	12,900	12,400
6	7,690	7,700	42,900	5,020	39,000	6,900	6,010	12,000	13,900	12,900	12,800	12,400
7	7,690	7,690	49,800	5,020	30,200	6,300	10,900	11,300	13,300	12,400	12,800	12,400
8	7,690	7,690	53,000	5,030	20,700	6,310	12,000	10,900	12,800	12,400	12,900	12,000
9	7,700	7,670	51,400	4,950	15,900	5,300	12,000	11,300	12,900	12,400	12,900	12,000
10	7,690	7,410	36,600	4,360	14,500	5,310	12,000	13,100	12,800	12,400	12,900	12,000
11	7,690	7,270	16,200	4,100	14,300	5,280	12,000	14,000	12,800	12,400	12,900	12,000
12	7,690	7,270	15,600	3,820	14,300	5,240	11,400	15,700	12,800	12,400	12,900	12,000
13	7,690	7,250	15,400	3,820	14,000	5,220	14,600	16,300	12,800	12,400	12,900	12,000
14	7,690	7,270	15,200	3,820	13,200	5,200	14,600	16,100	12,800	12,400	12,800	11,300
15	7,670	7,360	14,500	3,820	12,700	5,170	14,800	16,200	12,800	12,400	12,900	11,300
16	7,700	7,270	14,600	3,830	12,300	5,410	14,600	16,200	12,800	12,400	12,900	11,300
17	7,670	7,240	14,500	3,820	11,900	5,220	14,700	16,400	12,800	12,400	12,900	11,300
18	7,690	7,240	14,500	3,840	11,300	5,200	15,800	16,000	12,800	12,400	12,900	11,300
19	7,670	7,300	14,600	3,840	11,300	5,190	16,400	17,300	12,900	12,400	12,900	10,700
20	7,670	7,420	14,600	4,050	10,800	5,210	16,900	18,600	12,900	12,400	12,900	10,700
21	7,670	7,450	14,600	4,050	9,750	5,210	16,700	19,500	12,800	12,400	12,900	10,700
22	7,660	8,810	14,600	4,030	8,640	5,120	17,000	19,500	12,800	12,400	12,900	10,700
23	7,660	11,300	14,600	3,940	8,640	5,080	16,300	19,700	12,900	12,500	12,900	10,700
24	7,670	13,300	13,500	4,010	8,650	5,070	17,100	20,000	12,900	12,400	12,900	10,700
25	7,670	13,300	13,500	4,000	8,640	5,140	16,700	19,700	12,900	12,400	12,900	10,700
26	7,690	13,300	13,500	4,210	8,600	5,050	15,500	18,700	12,900	12,400	12,900	10,800
27	7,690	13,300	13,000	4,180	8,630	5,130	15,100	17,000	12,900	12,500	12,900	10,300
28	7,690	13,300	12,100	7,350	8,640	5,140	15,300	16,300	12,900	12,500	12,900	10,200
29	7,670	13,300	10,100	23,000	-----	5,120	15,300	15,400	12,900	12,500	12,100	10,200
30	7,720	13,300	9,480	33,800	-----	5,130	15,300	15,200	12,900	12,500	12,400	9,600
31	7,700	-----	8,300	41,300	-----	5,340	-----	14,700	-----	12,500	12,400	-----
Total	238,240	270,170	606,480	233,330	525,990	177,920	385,520	485,300	392,300	388,000	397,500	341,300
Mean	7,690	9,010	19,560	7,527	18,790	5,739	12,850	15,650	13,080	12,520	12,820	11,380
Max	7,720	13,300	53,000	41,300	42,500	8,120	17,100	20,000	14,000	12,900	12,900	12,400
Min	7,660	7,240	8,300	3,820	8,500	5,050	5,100	10,900	12,800	12,400	12,100	9,600
Ac-ft	472,500	535,900	1,203,200	462,800	1,043,000	352,900	764,700	962,600	778,100	769,600	788,400	677,000
Mean †	3,597	9,031	15,260	12,300	14,170	16,620	17,090	15,220	8,592	4,607	4,388	4,015
Ac-ft†	221,200	537,400	938,400	756,200	786,300	1,022,000	1,017,000	935,700	517,200	283,300	269,800	238,900

Cal year 1966: Total 3,876,000 Mean 10,620 Max 53,000 Min 4,460 Ac-ft 7,688,000 Mean † 8,423 Ac-ft † 6,098,000
 Wtr year 1967: Total 4,442,050 Mean 12,170 Max 53,000 Min 3,820 Ac-ft 8,811,000 Mean † 10,390 Ac-ft † 7,524,000

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

SACRAMENTO RIVER BASIN

791

11-3710. CLEAR CREEK AT FRENCH GULCH, CALIF.

LOCATION.--Lat 40°41'40", long 122°38'10", in NE¼ sec.27, T.33 N., R.7 W., on right bank 1,200 ft downstream from Right Fork, 0.3 mile south of French Gulch, and 15 miles northwest of Redding.

DRAINAGE AREA.--115 sq mi.

RECORDS AVAILABLE.--July 1950 to September 1967.

GAGE.--Digital water-stage recorder and concrete control. Datum of gage is 1,320.60 ft above mean sea level, datum of 1929, supplementary adjustment of 1956. Prior to Dec. 28, 1959, graphic water-stage recorder at datum 3.00 ft higher. Dec. 28, 1959, to Oct. 7, 1964, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--17 years, 214 cfs (154,900 acre-ft per year).

EXTREMES.--Maximum discharge during year, 2,850 cfs Dec. 5 (gage height, 9.21 ft); minimum daily, 11 cfs Oct. 1.

1950-67: Maximum discharge, 7,600 cfs Dec. 22, 1964 (gage height, 13.70 ft); minimum, 3.9 cfs Sept. 6-8, 1955.

REMARKS.--Records excellent. No large diversion above station. See schematic diagram for Pit and McCloud River basins. Records of suspended-sediment loads for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	11	13	251	108	1,460	209	397	414	226	69	30	17
2	12	15	573	103	1,060	211	396	409	241	67	29	16
3	12	16	675	99	859	204	426	423	202	64	28	17
4	12	15	1,170	97	780	193	434	453	189	62	28	16
5	12	16	2,020	97	754	184	493	498	186	61	27	17
6	12	25	964	90	712	176	1,230	527	181	60	27	16
7	12	28	602	88	661	171	1,240	574	172	58	27	16
8	12	23	422	86	614	169	975	663	164	56	26	17
9	12	21	348	84	568	169	851	686	157	55	25	17
10	12	21	379	82	549	242	998	605	150	54	25	18
11	12	24	373	80	526	269	1,220	529	145	50	24	18
12	12	43	375	78	507	256	1,060	466	143	48	23	17
13	13	64	462	77	503	249	943	423	137	47	23	16
14	15	130	544	77	460	256	846	404	131	45	22	16
15	15	400	440	75	408	295	748	411	125	44	22	15
16	15	418	359	73	368	1,630	660	437	120	43	21	15
17	15	157	301	71	335	1,370	700	441	114	47	20	16
18	13	99	262	71	312	941	680	429	110	44	20	21
19	13	160	233	69	293	747	637	404	108	42	19	19
20	15	1,080	215	135	273	836	594	380	107	42	18	17
21	15	624	197	367	256	822	565	359	105	41	18	16
22	17	434	180	280	243	746	574	339	99	39	18	14
23	17	273	170	206	236	793	587	319	95	38	18	14
24	17	196	158	230	238	720	590	299	92	37	17	14
25	16	154	150	200	245	637	579	280	87	36	19	15
26	16	130	140	233	225	566	579	262	84	35	19	15
27	16	112	132	327	216	505	563	247	81	32	21	14
28	17	120	128	1,440	211	474	525	237	79	33	19	15
29	17	150	122	2,470	-----	426	484	226	75	35	18	16
30	16	146	118	1,910	-----	416	444	216	71	32	18	16
31	16	-----	112	2,110	-----	407	-----	209	-----	29	17	-----
TOTAL	437	5,107	12,575	11,513	13,872	15,289	21,018	12,569	3,976	1,445	686	486
MEAN	14.1	170	406	371	495	493	701	405	133	46.6	22.1	16.2
MAX	17	1,080	2,020	2,470	1,460	1,630	1,240	686	241	69	30	21
MIN	11	13	112	69	211	169	396	209	71	29	17	14
AC-FT	867	10,130	24,940	22,840	27,510	30,330	41,690	24,930	7,890	2,870	1,360	964

CAL YR 1966: TOTAL 76,456.4

MEAN 209

MAX 2,020

MIN 8.5

AC-FT 151,600

WAT YR 1967: TOTAL 98,973

MEAN 271

MAX 2,470

MIN 11

AC-FT 196,300

Peak discharge (base, 1,500 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-05	0215	9.21	2,850	3-16	1245	8.28	2,200
1-29	0900	9.18	2,830				

KLAMATH RIVER BASIN

11-5254.3. JUDGE FRANCIS CARR POWERPLANT NEAR FRENCH GULCH, CALIF.

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

RECORDS AVAILABLE.--April 1963 to September 1967.

GAGE.--Recorded powerplant output.

EXTREMES.--1963-67: Maximum daily discharge, 3,280 cfs for several days in May, August, September 1964; no flow May 6-9, 1963 and Oct. 25, 1966.

REMARKS.--Water is diverted from Trinity River at NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec.8, T.33 N., R.8 W., through a tunnel to powerplant and then into Whiskeytown Lake (see sta. no. 3717). See schematic diagram for Pit and McCloud River basins.

COOPERATION.--Records furnished by Bureau of Reclamation.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3,098	1,741	1,012	564	652	549	571	547	3,236	3,257	2,909	2,964
2	3,100	1,791	576	564	655	536	571	543	3,244	3,257	2,910	2,958
3	3,100	2,576	555	563	617	545	565	531	3,244	3,257	2,071	3,193
4	3,097	2,481	545	564	615	543	569	465	2,432	3,257	3,257	3,091
5	3,080	3,066	558	563	603	472	567	489	2,770	2,791	3,257	3,094
6	3,081	3,012	500	636	606	548	566	507	3,257	2,990	2,994	3,069
7	3,142	2,039	477	637	606	561	575	517	3,257	2,992	2,840	3,049
8	3,095	2,006	477	659	598	563	574	512	3,257	2,936	2,790	3,063
9	3,095	2,949	476	644	595	599	574	463	3,257	2,866	2,964	3,052
10	3,097	3,257	476	642	613	552	586	493	3,257	2,944	2,836	3,130
11	3,142	3,252	461	649	614	564	582	491	2,896	2,923	3,065	3,207
12	3,141	3,247	475	636	613	547	590	497	3,055	2,945	2,945	3,207
13	3,140	3,244	476	638	615	553	587	494	3,257	2,943	2,865	3,045
14	3,142	3,251	456	632	617	554	593	493	3,257	2,893	3,203	3,128
15	3,066	1,943	473	635	613	560	593	473	3,257	2,900	2,924	3,155
16	3,143	1,676	470	630	610	564	590	486	3,257	2,897	2,236	3,239
17	3,142	1,663	469	634	613	566	591	1,097	3,257	2,897	3,257	3,219
18	3,141	1,701	454	630	622	572	594	1,100	3,064	2,899	3,257	3,247
19	3,143	1,665	469	724	610	560	594	1,369	3,170	2,945	2,942	3,240
20	3,143	1,667	453	733	602	563	588	1,167	3,257	2,946	2,944	3,217
21	1,823	1,654	471	740	608	563	592	1,050	3,257	2,915	2,910	3,205
22	1,416	1,661	473	755	608	565	593	1,822	3,257	2,915	2,838	3,160
23	1,416	1,658	476	671	614	563	589	2,604	3,257	2,895	3,081	3,199
24	200	1,647	505	679	609	564	590	3,178	3,257	2,899	2,969	3,195
25	0	1,650	510	681	605	571	985	3,201	3,257	2,896	3,091	3,167
26	1,132	1,317	512	670	610	564	527	3,214	3,257	2,899	3,165	3,166
27	1,416	1,436	461	674	607	565	1,872	3,219	3,197	2,946	3,127	3,214
28	1,416	1,461	454	673	605	561	2,375	3,031	3,257	2,941	2,983	3,322
29	1,416	1,453	441	680	---	554	625	2,648	3,257	2,793	2,960	3,310
30	1,416	2,558	440	1,017	---	554	603	2,726	3,257	2,869	2,901	2,799
31	1,416	---	451	791	---	547	---	2,849	---	2,867	3,004	---
Total	75,395	64,722	15,500	20,608	17,155	17,247	20,971	42,284	95,448	91,470	91,495	94,304
Mean	2,432	2,157	500	665	613	556	699	1,364	3,182	2,951	2,951	3,143
Max	3,143	3,257	1,012	1,017	655	599	2,375	3,218	3,257	3,257	3,257	3,322
Min	0	1,317	440	563	595	472	527	463	2,432	2,791	2,071	2,799
Ac-ft	149,660	128,370	30,740	40,880	34,030	34,210	41,550	83,870	189,320	181,430	181,480	187,050

Cal yr 1966: Total 713,284 Mean 1,954 Max 3,266 Min 0 Ac-ft 1,414,640
 Wtr yr 1967: Total 646,599 Mean 1,772 Max 3,322 Min 0 Ac-ft 1,282,590

SACRAMENTO RIVER BASIN

793

11-3716. SPRING CREEK POWERPLANT AT KESWICK, CALIF.

LOCATION.--Lat 40°37'41", long 122°27'59", in NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.18, T.32 N., R.5 W., at powerplant on Spring Creek, 0.4 mile northwest of Keswick, and 4.9 miles northwest of Redding.

RECORDS AVAILABLE.--December 1963 to September 1967.

GAGE.--Discharge computed from powerplant output.

EXTREMES.--1963-67: Maximum daily discharge, 3,642 cfs Dec. 18, 1966; minimum daily, 10 cfs Dec. 15, 1963.

REMARKS.--Water is released from Whiskeytown Lake (see sta. no. 3717) at lat 40°37'03", long 122°31'31", through a tunnel to powerplant and then into Keswick Reservoir. See schematic diagram for Pit and McCloud River basins.

COOPERATION.--Records furnished by Bureau of Reclamation.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.029	1.658	1.552	754	3.580	864	2.051	999	2.948	2.922	2.804	2.999
2	3.039	1.946	1.532	753	3.586	863	2.056	948	2.991	3.520	2.807	2.986
3	3.037	2.718	1.338	756	3.593	866	2.055	1.025	2.876	3.526	2.856	3.012
4	3.039	2.125	617	762	3.602	864	2.055	1.376	2.740	2.780	2.737	3.062
5	3.033	2.913	632	753	3.611	791	2.060	1.259	2.923	3.080	2.948	3.039
6	3.033	2.474	600	743	3.621	838	2.064	1.291	2.940	3.012	2.938	3.076
7	3.028	2.343	614	753	3.634	821	2.056	1.291	2.929	3.047	2.823	3.108
8	3.036	2.226	614	758	1.912	813	2.052	1.356	3.523	2.859	2.893	3.123
9	3.034	3.066	1.551	744	1.463	859	2.056	1.635	3.504	2.778	2.885	3.126
10	3.040	3.390	1.851	758	1.433	885	1.705	2.101	3.521	2.843	2.811	3.188
11	3.033	3.401	1.853	758	1.424	887	1.696	1.309	3.524	2.778	2.926	3.258
12	3.067	3.401	2.018	760	1.379	869	1.703	1.227	3.528	2.854	3.052	3.253
13	3.055	3.525	2.012	759	1.429	879	1.691	1.211	3.289	2.851	2.903	3.264
14	3.071	3.518	2.376	755	1.430	882	1.837	1.304	3.528	2.847	2.758	3.253
15	2.998	3.517	3.593	754	1.431	894	1.997	994	3.289	2.854	2.745	3.308
16	3.062	3.520	3.608	754	1.423	905	2.077	1.139	3.213	2.880	3.154	3.362
17	3.063	3.532	3.622	747	1.417	1.581	2.043	1.669	3.203	2.889	2.754	3.239
18	3.054	3.538	3.642	727	1.074	1.893	1.393	1.613	3.261	2.886	2.989	3.292
19	3.070	3.548	3.110	749	1.159	1.864	2.896	1.623	3.267	2.882	2.911	3.241
20	3.057	3.547	1.047	752	987	1.859	2.780	1.005	3.523	2.872	2.975	3.277
21	1.828	3.511	1.051	750	850	1.869	2.749	1.027	3.523	2.884	2.875	3.277
22	1.453	3.549	1.032	744	880	1.858	2.610	1.020	2.940	2.884	2.937	3.372
23	1.441	3.556	1.057	744	874	1.860	2.394	994	3.520	2.874	2.981	3.386
24	543	3.580	754	752	872	1.859	2.677	987	3.520	2.877	2.927	3.392
25	543	3.595	753	736	873	1.878	2.647	1.764	2.884	2.885	2.941	3.401
26	879	3.604	685	737	866	1.848	1.360	2.418	3.119	2.882	3.075	3.390
27	1.149	3.614	687	730	895	1.858	1.010	2.420	3.518	2.892	3.015	3.328
28	1.168	3.625	601	740	863	2.039	1.073	2.604	3.516	2.885	3.149	3.319
29	1.376	3.635	600	1.775	- - - -	1.978	1.068	2.957	3.074	2.732	3.139	3.365
30	1.461	3.028	607	2.376	- - - -	2.039	1.131	2.958	3.518	2.728	2.976	2.923
31	1.536	- - - -	607	3.581	- - - -	2.038	- - - -	2.954	- - - -	2.726	3.048	- - - -
Total	74,255	95,203	46,216	28,714	50,161	42,101	59,042	48,478	97,652	90,209	90,732	96,619
Mean	2.395	3.173	1.491	926	1.791	1.358	1.968	1.564	3.255	2.910	2.927	3.221
Max	3.071	3.635	3.642	3.581	3.634	2.039	2.896	2.958	3.528	3.526	3.154	3.401
Min	543	1.658	600	727	850	813	1.010	948	2.740	2.726	2.737	2.923
Ac-ft	147,400	188,830	91,670	56,950	99,490	83,510	117,010	96,150	193,690	178,930	179,960	191,640
Cal yr 1966 Total	839,282	Mean	2,299	Max	3,642	Min	543	Ac-ft	1,664,960			
Wtr yr 1967 Total	819,382	Mean	2,245	Max	3,642	Min	543	Ac-ft	1,625,230			

11-3720. CLEAR CREEK NEAR IGO, CALIF.

LOCATION (revised).--Lat 40°30'50", long 122°31'20", on left bank at highway bridge on Redding-Igo road 1.0 mile northeast of Igo, 8.3 miles southwest of Redding, and 10.4 miles upstream from mouth.

DRAINAGE AREA.--228 sq mi.

RECORDS AVAILABLE.--October 1940 to September 1967.

GAGE.--Digital water-stage recorder. Datum of gage is 672 ft above mean sea level. Prior to Sept. 28, 1962, graphic water-stage recorder, at same site and datum.

AVERAGE DISCHARGE.--27 years, 419 cfs (303,300 acre-ft per year), adjusted for storage and diversions.

EXTREMES.--Maximum discharge during year, 2,800 cfs Dec. 5 (gage height, 6.14 ft); minimum daily, 39 cfs Oct. 1-11, 13.

1940-63 (prior to regulation by Whiskeytown Reservoir): Maximum discharge, 24,500 cfs Dec. 21, 1955 (gage height, 13.75 ft); minimum, 8.6 cfs Sept. 4, 6, 7, 1950.

1963-67: Maximum discharge, 9,940 cfs Dec. 22, 1964 (gage height, 9.23 ft); minimum daily, 37 cfs for many days in August and September, 1966.

REMARKS.--Records good. Flow regulated by Whiskeytown Lake since May 1963 (see sta. no. 3717). Transbasin diversion from Trinity River through Judge Francis Carr powerplant to Whiskeytown Lake began in April 1963 (see sta. no. 5254.3). Diversions from Whiskeytown Lake to Spring Creek powerplant (see sta. no. 3716) began in December 1963. See schematic diagram for Pit and McCloud River basins. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.		
1	39	84	256	108	390	87	341	157	144	71	65	65		
2	39	84	375	108	293	86	285	152	142	71	65	65		
3	39	84	254	92	238	84	257	148	107	70	65	65		
4	39	84	768	74	208	83	239	147	99	70	65	65		
5	39	84	837	71	185	82	360	145	100	70	65	65		
6	39	89	277	69	168	80	880	140	100	70	65	65		
7	39	86	210	69	154	79	533	140	95	70	65	65		
8	39	85	178	69	144	78	351	142	92	70	65	66		
9	39	85	169	69	135	78	290	189	90	70	65	65		
10	39	85	214	69	130	172	284	167	87	70	65	65		
11	39	87	186	69	124	192	315	150	87	70	65	65		
12	40	95	171	69	120	170	277	140	89	69	65	65		
13	39	92	186	69	118	151	254	134	87	69	64	65		
14	41	178	175	69	113	133	232	129	85	68	64	65		
15	48	352	162	69	110	134	215	125	83	68	64	65		
16	48	190	149	69	107	547	204	124	82	67	64	65		
17	48	118	139	69	104	310	462	124	79	66	66	64		
18	48	105	132	69	102	230	360	117	78	67	66	64		
19	48	250	128	69	99	194	305	113	79	67	65	64		
20	49	380	125	200	95	310	262	109	77	67	65	63		
21	50	250	121	600	94	285	238	104	75	67	65	64		
22	49	190	118	350	93	238	233	102	75	67	65	64		
23	49	140	116	250	92	211	230	99	74	67	65	64		
24	49	125	114	450	91	185	220	96	73	67	65	64		
25	49	118	113	300	97	169	208	93	73	66	65	64		
26	49	112	112	540	94	157	203	93	72	65	66	64		
27	49	108	114	400	92	146	202	92	72	66	66	64		
28	49	122	113	600	91	143	186	93	72	66	66	64		
29	49	120	113	800	-----	136	174	91	71	66	65	64		
30	49	112	111	580	-----	190	166	89	71	65	65	64		
31	55	-----	109	620	-----	349	-----	88	-----	66	65	-----		
TOTAL	1,384	4,094	6,345	7,109	3,881	5,489	8,766	3,832	2,610	2,108	2,016	1,936		
MEAN	44.6	136	205	229	139	177	292	124	87.0	68.0	65.0	64.5		
MAX	55	380	837	800	390	547	880	189	144	71	66	66		
MIN	39	84	109	69	91	78	166	88	71	65	64	63		
AC-FT	2,750	8,120	12,590	14,100	7,700	10,890	17,390	7,600	5,180	4,180	4,000	3,840		
MEAN †	15.3	540	1,017	978	916	1,072	1,501	792	279	75.5	53.4	187		
AC-FT †	940	32,160	62,540	60,120	50,900	65,890	95,240	48,700	16,500	4,640	3,280	11,120		
CAL YR 1966:	TOTAL	39,209	MEAN	107	MAX	1,860	MIN	37	AC-FT	77,770	MEAN †	446	AC-FT †	322,900
WAT YR 1967:	TOTAL	49,570	MEAN	136	MAX	880	MIN	39	AC-FT	98,320	MEAN †	625	AC-FT †	452,100

† Adjusted for change in contents and evaporation from Whiskeytown Lake, diversion from Trinity River through Judge Francis Carr powerplant, and diversion to Spring Creek powerplant.

Note.-- For months when inflow to the reservoir was small and other quantities were large, discordant figures of net runoff may appear.

SACRAMENTO RIVER BASIN

11-3720.6. CHURN CREEK BELOW NEWTOWN CREEK, NEAR REDDING, CALIF.

LOCATION.--Lat 40°38'17", long 122°22'02", in SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.7, T.32 N., R.4 W., on left bank 100 ft downstream from Newtown Creek, 0.1 mile upstream from Oasis Road bridge, and 4.2 miles north of Redding.

DRAINAGE AREA.--11.9 sq mi.

RECORDS AVAILABLE.--October 1965 to September 1967.

GAGE.--Graphic water-stage recorder. Altitude of gage is 640 ft (from topographic map).

EXTREMES.--Maximum discharge during year, 1,300 cfs Dec. 5 (gage height, 6.66 ft); no flow for several months. 1965-67: Maximum discharge, 1,300 cfs Dec. 5, 1966 (gage height, 6.66 ft); no for several months in each year.

Flood of Dec. 22, 1964, reached a stage of 7.68 ft, from floodmarks on right bank (discharge, 4,000 cfs, from station above Newtown Creek adjusted for intervening drainage area).

REMARKS.--Records good. Small diversion above station for domestic supply.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	71	5.6	150	7.0	167	29	8.3	0.10		
2		0	400	5.2	78	6.5	99	23	11	.10		
3		0	134	5.2	53	6.0	67	23	6.2	.10		
4		0	403	5.8	40	5.8	49	20	5.0	0		
5		0	435	5.6	32	5.6	63	18	4.6	0		
6		0	96	5.2	27	5.4	190	16	4.8	0		
7		0	49	4.8	23	5.2	138	13	4.2	0		
8		0	32	4.2	19	5.0	80	12	3.8	0		
9		0	27	4.4	17	5.0	79	18	3.4	0		
10		0	47	4.4	15	17	61	18	3.0	0		
11		0	32	4.6	13	57	56	13	2.6	0		
12		0	28	4.2	12	40	47	12	2.6	0		
13		0	54	3.8	12	36	49	9.7	2.4	0		
14		10	43	3.8	11	32	46	8.8	1.8	0		
15		42	33	5.0	10	37	43	8.2	1.6	0		
16		40	26	5.4	9.4	256	36	7.8	1.4	0		
17		6.8	21	4.0	9.1	140	127	7.2	1.2	0		
18		3.6	17	3.8	8.5	69	146	7.0	1.1	0		
19		37	15	3.6	8.0	46	117	6.2	1.0	0		
20		108	13	190	7.8	54	81	5.8	1.0	0		
21		135	11	409	7.5	40	63	5.4	.90	0		
22		56	10	134	7.2	35	61	4.8	.60	0		
23		20	9.7	66	7.0	31	60	4.4	.50	0		
24		11	8.5	112	9.1	26	63	3.8	.50	0		
25		9.0	8.0	91	14	23	52	3.6	.40	0		
26		6.5	7.5	278	3.8	20	49	3.6	.40	0		
27		5.4	7.0	222	7.8	17	62	3.4	.40	0		
28		11	6.5	381	7.2	17	46	3.6	.30	0		
29		14	6.5	449	-----	15	40	3.2	.20	0		
30		9.7	6.2	308	-----	66	33	3.0	.10	0		
31		-----	5.8	429	-----	202	-----	3.2	-----	0		-----
Total	0	524.0	2062.7	3157.6	623.4	1327.5	2270	317.7	75.30	0.30	0	0
Mean	0	17.5	66.5	102	22.3	42.8	75.7	10.2	2.51	0.01	0	0
Max	0	135	435	449	150	256	190	29	11	0.10	0	0
Min	0	0	5.8	3.6	7.0	5.0	33	3.0	0.10	0	0	0
Ac-ft	0	1040	4090	6260	1240	2630	4500	630	149	0.6	0	0

Cal yr 1966: Total 7928.70 Mean 21.7 Max 796 Min 0 Ac-ft 15730

Wtr yr 1967: Total 10358.50 Mean 28.4 Max 449 Min 0 Ac-ft 20550

Peak discharge (base, 360 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-21	1800	5.32	636	1-26	0900	4.58	414
12-02	1000	5.68	762	1-31	0200	6.03	925
12-05	0100	6.66	1,300	3-16	1100	4.52	396
1-21	0900	5.15	585				

11-3722. SOUTH COW CREEK NEAR MILLVILLE, CALIF.

LOCATION.--Lat 40°32'55", long 122°05'30", in NW¼NE¼ sec.16, T.31 N., R.2 W., on left bank 2.5 miles upstream from Old Cow Creek and 4.4 miles east of Millville.

DRAINAGE AREA.--77.3 sq mi.

RECORDS AVAILABLE.--October 1956 to September 1967.

GAGE.--Digital water-stage recorder. Altitude of gage is 610 ft (from topographic map). Prior to Aug. 9, 1957, graphic water-stage recorder at site 1.0 mile downstream at different datum. Aug. 9, 1957, to Apr. 24, 1965, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--11 years, 99.3 cfs (71,890 acre-ft per year).

EXTREMES.--Maximum discharge during year, 5,080 cfs Dec. 2 (gage height, 8.27 ft); minimum daily, 7.5 cfs Oct.

6.

1956-67: Maximum discharge, 5,720 cfs May 18, 1957 (gage height, 9.23 ft, site and datum then in use), from rating curve extended above 800 cfs by comparison with rating curve at present site; minimum, 0.3 cfs Aug. 30, 1960.

REVISIONS.--Figures of maximum discharge for the water years 1964 and 1965 have been revised to 4,880 cfs Jan. 20, 1964 (gage height, 8.13 ft) and 5,510 cfs Jan. 5, 1965 (gage height, 8.57 ft), superceding figures published in Surface Water Records of California Part 1, Vol. 2, 1964, 1965.

REMARKS.--Records good. Diversions above station of up to 35 cfs for irrigation of about 1,050 acres. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

REVISIONS.--Revised figure of peak discharge, in cubic feet per second, for high-water period in the water year 1965, superceding figure published in Surface Water Records of California Part 1, Vol. 2, 1965, is given herewith:

Dec. 22, 1964 (1030) 4,290 cfs (gage height, 7.71 ft).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	10	15	336	40	547	71	359	162	199	60	28	20
2	14	17	1,420	39	362	70	182	156	183	57	23	21
3	12	16	450	39	271	69	166	154	159	59	27	22
4	9.5	15	330	40	218	66	148	162	155	57	29	20
5	8.5	13	250	37	188	65	168	182	148	53	29	22
6	7.5	40	165	58	164	64	482	182	149	54	30	22
7	12	36	132	37	150	63	323	205	148	53	30	23
8	9.0	24	109	36	138	63	218	251	147	53	28	24
9	14	21	98	36	126	63	185	312	151	50	27	26
10	12	21	239	36	118	66	190	426	149	48	27	26
11	14	23	134	35	112	245	212	288	150	42	25	26
12	15	53	106	35	109	212	164	240	154	43	25	22
13	13	34	294	35	109	284	150	220	143	41	27	21
14	13	29	197	34	107	282	225	215	138	37	22	20
15	14	48	134	34	100	202	198	238	134	34	21	18
16	15	207	110	34	96	646	146	293	129	37	24	18
17	13	54	96	33	93	332	260	340	125	38	22	25
18	13	38	87	33	90	327	465	379	126	38	22	25
19	12	293	80	33	86	228	578	376	116	35	23	20
20	12	630	75	1,030	82	242	383	366	111	31	24	21
21	13	263	68	2,210	79	210	236	366	107	31	23	19
22	15	230	64	560	77	190	215	371	101	32	20	21
23	18	93	60	254	74	251	312	370	94	35	21	21
24	17	66	56	446	76	205	416	352	90	33	22	20
25	17	53	51	236	103	180	595	309	86	34	23	19
26	16	47	50	675	80	162	274	276	79	30	25	18
27	16	43	48	785	75	150	727	260	78	31	22	22
28	15	228	44	1,120	72	158	289	255	74	32	23	23
29	16	400	43	1,310	-----	150	218	231	68	30	20	22
30	17	153	42	1,100	-----	142	180	212	62	32	22	23
31	15	-----	41	1,070	-----	268	-----	197	-----	30	20	-----
TOTAL	417.5	3,203	5,409	11,480	3,902	5,726	8,664	8,346	3,753	1,270	754	650
MEAN	13.5	107	174	370	139	185	289	269	125	41.0	24.3	21.7
MAX	18	630	1,420	2,210	547	646	727	426	199	60	30	26
MIN	7.5	13	41	33	72	63	146	154	62	30	20	18
AC-FT	828	6,350	10,730	22,770	7,740	11,360	17,180	16,550	7,440	2,520	1,500	1,290

CAL YR 1966: TOTAL 28,597.7 MEAN 78.3 MAX 1,520 MIN 2.3 AC-FT 56,720
WAT YR 1967: TOTAL 53,574.5 MEAN 147 MAX 2,210 MIN 7.5 AC-FT 106,300

Peak discharge (base, 1,800 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-19	2245	5.88	2,200	1-28	1815	6.05	2,400
12-02	1630	8.27	5,080	1-31	0530	5.60	1,980
1-21	1530	7.90	4,560	4-27	0315	5.29	1,820

SACRAMENTO RIVER BASIN

11-3740. COW CREEK NEAR MILLVILLE, CALIF.

LOCATION.--Lat 40°30'20", long 122°13'55", in NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec.32, T.31 N., R.3 W., on right bank 4.2 miles southwest of Millville and 4.3 miles downstream from Little Cow Creek.

DRAINAGE AREA.--425 sq mi.

RECORDS AVAILABLE.--October 1949 to September 1967.

GAGE.--Digital water-stage recorder. Altitude of gage is 400 ft (from topographic map). Prior to July 1, 1965, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--18 years, 643 cfs (465,500 acre-ft per year).

EXTREMES.--Maximum discharge during year, 23,100 cfs Jan. 21 (gage height, 15.71 ft); minimum daily, 12 cfs Oct. 1.

1949-67: Maximum discharge, 45,200 cfs Dec. 27, 1951 (gage height, 21.55 ft); minimum daily, 0.80 cfs Aug. 13, 1966.

REMARKS.--Records good except those for periods of no gage-height record, which are fair. Numerous small diversions above station for irrigation. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	12	40	2,000	210	3,440	334	1,910	1,090	1,200	198	66	28
2	22	40	9,000	202	2,210	326	1,590	978	1,120	178	56	33
3	25	40	4,000	197	1,630	310	1,580	938	1,060	175	60	40
4	20	44	2,500	196	1,310	300	1,230	980	1,000	164	62	41
5	18	45	1,700	194	1,110	292	1,110	1,060	980	154	61	36
6	14	107	1,300	184	960	287	1,890	1,140	930	146	60	33
7	17	238	887	179	859	282	1,870	1,260	920	138	59	37
8	25	127	747	175	773	279	1,260	1,480	910	131	58	36
9	25	101	605	175	707	281	1,130	1,900	905	132	56	47
10	22	99	1,640	169	656	312	1,080	3,050	900	126	52	48
11	21	120	1,000	167	604	1,080	1,220	2,100	905	121	51	52
12	23	800	692	166	577	874	988	1,780	890	111	53	49
13	26	500	1,510	166	561	1,380	893	1,580	850	109	50	40
14	27	350	1,330	161	542	1,940	1,940	1,480	800	102	44	33
15	30	600	819	161	501	1,170	1,370	1,420	750	99	36	35
16	29	2,000	641	154	481	4,320	1,070	1,650	700	101	35	36
17	31	900	527	152	458	2,240	2,290	2,060	650	102	38	47
18	27	600	464	148	438	2,960	4,220	2,680	600	93	33	60
19	25	1,200	414	150	411	1,740	3,400	2,640	550	85	33	54
20	30	5,000	377	6,060	390	1,690	2,700	2,580	500	79	41	42
21	30	1,600	350	17,600	376	1,450	1,900	2,540	450	84	41	44
22	37	1,000	320	4,240	367	1,190	1,650	2,580	400	74	29	42
23	43	750	312	1,860	356	1,700	2,320	2,590	360	74	24	49
24	41	600	321	3,600	359	1,410	2,830	2,490	340	73	28	52
25	35	500	286	2,390	504	1,380	3,060	2,150	321	78	36	49
26	36	450	271	5,270	399	1,340	1,930	1,900	298	73	40	41
27	38	400	249	4,920	357	1,320	4,170	1,750	275	73	38	40
28	44	700	236	8,620	343	1,300	2,030	1,600	258	60	40	44
29	45	3,000	231	9,280	-----	1,290	1,530	1,500	242	71	35	48
30	45	900	223	6,480	-----	1,280	1,270	1,400	220	73	35	54
31	42	-----	215	8,760	-----	1,330	-----	1,300	-----	67	32	-----
TOTAL	905	22,851	35,167	82,386	21,679	37,387	57,431	55,646	20,284	3,344	1,382	1,290
MEAN	29.2	762	1,134	2,658	774	1,206	1,914	1,795	676	108	44.6	43.0
MAX	45	5,000	9,000	17,600	3,440	4,320	4,220	3,050	1,200	198	66	60
MIN	12	40	215	148	343	279	893	938	220	60	24	28
AC-FT	1,800	45,320	69,750	163,400	43,000	74,160	113,900	110,400	40,230	6,630	2,740	2,560

CAL YR 1966: TOTAL 208,023.50 MEAN 570 MAX 17,300 MIN .80 AC-FT 412,600
WAT YR 1967: TOTAL 339,752 MEAN 931 MAX 17,600 MIN 12 AC-FT 673,900

Peak discharge (base, 10,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-02	----	14.65	20,100	1-28	2030	12.59	15,300
1-21	0845	15.71	23,100	1-31	0600	13.26	16,800

Note.--No gage-height record Nov. 11 to Dec. 6, May 4 to June 23.

SACRAMENTO RIVER BASIN

799

11-3740.6. SHINGLE CREEK NEAR SHINGLETOWN, CALIF.

LOCATION.--Lat 40°30'00", long 121°58'20", in NW¼SW¼ sec.34, T.31 N., R.1 W., on right bank 10 ft upstream from culvert on State Highway 44 and 4.5 miles west of Shingletown.

DRAINAGE AREA.--3.25 sq mi.

RECORDS AVAILABLE.--Water years 1961-63 (annual maximum), October 1963 to September 1967 discontinued as a continuous-record station; converted to a crest-stage partial-record station.

GAGE.--Graphic water-stage recorder, crest-stage gage, and tipping-bucket rain gage. Altitude of gage is 2,140 ft (from topographic map). Prior to Oct. 1, 1963, crest-stage gages only, at site 10 ft downstream at same datum.

EXTREMES.--Maximum discharge during year, 608 cfs Jan. 21 (gage height, 8.22 ft, from floodmarks in gage house); no flow for several months.

1960-67: Maximum discharge, 608 cfs Jan. 21 (gage height, 8.22 ft, from floodmarks in gage house).

1963-67: No flow for several months each year.

REMARKS.--Records excellent except those for periods of no gage-height record, which are fair. No regulation or diversion above station.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	17	2.0	22	3.4	15	7.5	1.8			
2		0	32	2.0	16	3.0	8.0	7.0	2.4			
3		0	19	2.0	13	3.0	7.2	6.8	2.1			
4		0	9.4	2.0	10	3.0	6.6	6.5	1.9			
5		0	7.5	2.0	8.0	2.8	9.0	6.4	1.6			
6		.10	5.3	2.0	6.6	2.7	21	6.5	1.8			
7		0	4.5	2.0	6.1	2.6	13	7.0	1.5			
8		0	4.1	2.0	5.7	2.5	9.8	8.0	1.4			
9		0	3.7	2.0	5.3	2.3	8.2	10	1.6			
10		0	8.0	2.0	4.9	2.2	8.6	14	1.4			
11		0	4.1	2.0	4.5	29	9.2	10	1.5			
12		1.8	3.7	2.0	4.5	23	7.3	11	1.4			
13		1.2	3.9	2.0	4.5	18	6.6	9.6	1.2			
14		1.0	4.9	2.0	4.5	13	10	8.5	1.1			
15		1.6	4.1	2.0	4.5	27	8.6	7.7	1.0			
16		5.1	3.7	2.0	4.1	17	6.6	6.9	.80			
17		1.3	3.0	2.0	4.1	15	12	6.2	.70			
18		.80	2.6	2.0	3.7	13	21	5.4	.50			
19		5.6	2.6	2.0	3.4	10	25	5.0	.40			
20		11	2.4	30	3.4	10	13	4.5	.40			
21		5.3	2.0	142	3.0	9.2	11	4.1	.40			
22		4.9	2.0	36	3.0	3.4	10	3.7	.30			
23		2.4	2.4	16	3.0	11	16	3.4	.30			
24		1.6	2.6	18	4.5	8.9	26	3.0	.20			
25		1.2	2.6	13	7.0	7.8	17	2.6	.20			
26		1.0	2.4	24	4.1	7.0	12	2.5	.20			
27		1.0	2.0	34	3.7	6.6	32	2.3	.20			
28		6.6	2.0	54	3.4	6.8	13	2.1	.10			
29		10	2.4	43	-----	6.5	9.5	2.0	.10			
30		4.1	2.4	53	-----	6.2	3.3	3.4	.10			
31		-----	2.0	51	-----	11	-----	2.2	-----			
Total	0	67.60	174.3	552	170.5	291.9	380.5	185.8	28.60	0	0	0
Mean	0	2.25	5.62	17.8	6.09	9.42	12.7	5.99	0.95	0	0	0
Max	0	11	32	142	22	29	32	14	24	0	0	0
Min	0	0	2.0	2.0	3.0	2.2	6.6	2.0	.10	0	0	0
Ac-ft	0	134	346	1,090	338	579	755	369	57	0	0	0
(†)	0	10.4	5.2	14.2	0.8	-	-	-	-	-	-	-

Calendar year 1966: Total 754.00 Mean 2.07 Max 32 Min 0 Ac-ft 1,500
 Water year 1966-67: Total 1,851.2 Mean 5.07 Max 142 Min 0 Ac-ft 3,670

† Precipitation in inches

Note: No gage-height record Mar. 5 to May 23, July 25 to Sept. 30.

SACRAMENTO RIVER BASIN

11-3741. BEAR CREEK NEAR MILLVILLE, CALIF.

LOCATION.--Lat 40°31'50", long 122°06'30", in SE¼NE¼ sec.20, T.31 N., R.2 W., on right bank 10 ft downstream from bridge on State Highway 44 and 3.8 miles southeast of Millville.

DRAINAGE AREA.--75.6 sq mi.

RECORDS AVAILABLE.--October 1959 to September 1967 (discontinued).

GAGE.--Graphic water-stage recorder. Altitude of gage is 720 ft (from topographic map).

AVERAGE DISCHARGE.--8 years, 81.6 cfs (59,080 acre-ft per year).

EXTREMES.--Maximum discharge during year, 4,430 cfs Jan. 21 (gage height, 12.35 ft), from rating curve extended above 400 cfs; minimum daily, 3.5 cfs Aug. 22.
1959-67: Maximum discharge, 4,430 cfs Jan. 21, 1967 (gage height, 12.35 ft), from rating curve extended above 400 cfs; minimum, 2.6 cfs Sept. 9, 1961.

REMARKS.--No storage or diversion above station.

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

REVISIONS (water year).--1965 report: 1960.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.9	10	300	39	576	85	260	276	88	23	9.3	7.5
2	6.4	10	837	37	433	82	193	285	106	23	9.3	9.1
3	6.9	10	489	37	350	79	201	264	87	22	9.6	8.4
4	6.9	10	265	37	300	76	176	264	72	22	9.6	10
5	7.6	11	323	37	255	73	204	264	71	22	9.3	8.1
6	7.4	31	182	35	227	72	572	244	71	19	9.3	7.8
7	7.6	30	137	35	206	69	406	229	67	19	10	8.4
8	7.6	19	114	35	186	67	309	225	63	18	9.6	8.4
9	7.6	18	98	34	173	65	273	231	60	19	11	8.7
10	7.1	17	156	33	158	72	278	326	57	19	10	8.4
11	6.9	19	111	33	147	316	312	266	56	17	9.3	9.0
12	7.6	48	91	33	140	214	253	227	56	16	9.3	10
13	8.5	30	180	33	134	233	225	193	53	15	9.3	10
14	8.5	30	149	32	133	240	244	173	48	14	9.6	7.2
15	8.8	44	107	32	126	208	253	161	48	11	8.1	7.8
16	9.7	132	89	31	119	756	222	155	42	13	7.8	7.2
17	10	37	79	31	115	348	290	147	40	15	7.5	8.4
18	8.8	28	71	31	108	285	381	139	41	13	7.5	12
19	8.2	72	65	30	102	231	451	130	41	13	7.8	8.7
20	10	423	61	470	95	290	373	120	38	11	7.8	9.3
21	10	164	57	1,910	92	248	312	111	36	12	7.2	10
22	11	185	53	684	89	210	295	104	33	12	7.2	10
23	11	69	55	381	87	244	345	98	31	11	9.3	9.3
24	11	49	53	395	89	203	381	92	29	12	8.4	10
25	9.7	40	49	292	159	173	457	85	29	13	7.2	11
26	11	35	47	430	113	155	358	76	28	12	7.0	8.4
27	11	31	45	551	99	139	558	74	27	13	7.8	8.7
28	11	93	42	814	90	150	409	78	27	14	8.7	9.0
29	11	298	43	1,020	-----	147	333	81	26	13	6.7	8.7
30	10	108	42	870	-----	147	300	75	24	11	6.7	8.7
31	10	-----	39	906	-----	204	-----	71	-----	11	6.4	-----
Total	274.7	2,101	4,429	9,368	4,901	5,881	9,624	5,264	1,495	478	263.6	267.2
Mean	8.86	70.0	143	302	175	190	321	170	49.8	15.4	8.50	8.91
Max	11	423	837	1,910	576	756	572	326	106	23	11	12
Min	5.9	10	39	30	87	65	176	71	24	11	6.4	7.2
Ac-ft	545	4,170	8,780	18,580	9,721	11,660	19,090	10,440	2,965	948	523	530
Cal. yr 1966: Total	23,161.9	Mean	63.5	Max	1,070	Min	3.5	Ac-ft	45,940			
Wtr yr 1967: Total	44,346.5	Mean	121	Max	1,910	Min	5.9	Ac-ft	87,960			

SACRAMENTO RIVER BASIN

801

11-3744. MIDDLE FORK COTTONWOOD CREEK NEAR ONO, CALIF.

LOCATION.--Lat 40°23'25", long 122°31'15", in SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.3, T.29 N., R.6 W., on left bank 0.4 mile upstream from North Fork Cottonwood Creek and 7.8 miles southeast of Ono.

DRAINAGE AREA.--249 sq mi.

RECORDS AVAILABLE.--October 1956 to September 1967.

GAGE.--Digital water-stage recorder. Altitude of gage is 550 ft (from topographic map). Prior to Oct. 11, 1965, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--11 years, 225 cfs (162,900 acre-ft per year); median of yearly mean discharges, 160 cfs (116,000 acre-ft per year).

EXTREMES.--Maximum discharge during year, 4,390 cfs Jan. 29 (gage height, 11.21 ft); minimum daily, 5.0 cfs Oct. 1.

1956-67: Maximum discharge, 13,500 cfs Dec. 22, 1964 (gage height, 19.08 ft, from floodmarks, in gage well), from rating curve extended above 7,800 cfs on basis of slope-area measurement of maximum flow; minimum daily, 1.2 cfs Aug. 28, 1964.

REMARKS.--Records fair. No regulation or diversion above station. Records of suspended-sediment loads at or near this gaging station for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	5.0	9.5	310	103	1,960	210	528	505	223	85	25	14
2	5.5	10	585	100	1,480	204	420	480	406	82	24	14
3	6.5	11	727	97	1,110	199	404	482	296	78	23	13
4	7.0	12	871	94	980	195	404	512	232	73	22	13
5	6.0	12	2,260	92	940	186	413	562	311	70	20	13
6	6.5	16	910	88	868	179	752	558	296	69	20	13
7	7.2	23	562	85	811	172	1,020	608	253	66	20	13
8	8.1	23	423	82	740	168	814	743	231	64	21	13
9	7.7	19	338	81	677	165	755	784	217	62	20	13
10	7.6	17	680	78	647	201	797	668	203	58	20	13
11	7.7	18	460	77	605	298	888	530	190	56	19	14
12	8.1	22	456	76	598	308	786	446	194	55	19	13
13	8.0	31	567	74	585	314	740	396	186	52	19	13
14	8.0	35	609	74	515	272	701	380	171	47	18	12
15	8.0	92	472	74	438	253	659	403	163	45	17	12
16	8.0	146	391	73	392	792	588	453	157	44	16	12
17	8.0	94	329	72	358	780	686	477	151	42	16	12
18	8.0	60	285	71	340	635	608	463	146	40	16	14
19	8.0	68	260	70	324	558	632	409	143	37	15	15
20	8.0	422	235	442	298	614	635	395	141	37	14	14
21	8.0	383	215	1,800	280	716	585	386	134	36	14	13
22	8.0	330	192	993	268	662	600	371	123	36	13	12
23	9.0	186	175	478	256	677	790	344	117	34	13	12
24	9.0	134	160	1,150	249	615	780	312	112	33	14	12
25	9.5	108	148	709	249	530	780	280	107	33	14	12
26	9.5	94	139	1,810	237	456	737	256	105	30	15	12
27	10	87	129	1,380	226	410	710	239	101	30	16	11
28	10	98	123	2,340	217	384	662	230	97	29	17	11
29	10	189	117	3,880	-----	354	605	223	92	30	17	11
30	9.5	185	113	2,870	-----	390	542	207	89	29	15	11
31	9.0	-----	108	2,770	-----	442	-----	199	-----	26	15	-----
TOTAL	248.4	2,934.5	13,349	22,183	16,648	12,339	20,021	13,301	5,387	1,508	547	380
MEAN	8.01	97.8	431	716	595	398	667	429	180	48.6	17.6	12.7
MAX	10	422	2,260	3,880	1,960	792	1,020	784	406	85	25	15
MIN	5.0	9.5	108	70	217	165	404	199	89	26	13	11
AC-FT	493	5,820	26,480	44,000	33,020	24,470	39,710	26,380	10,680	2,990	1,080	754

CAL YR 1966: TOTAL 73,789.5 MEAN 202 MAX 2,660 MIN 4.5 AC-FT 146,400
WAT YR 1967: TOTAL 108,845.9 MEAN 298 MAX 3,880 MIN 5.0 AC-FT 215,900

Peak discharge (base, 1,800 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-05	0300	10.44	3,470	1-26	0745	9.94	2,900
1-21	0900	9.26	2,290	1-29	1200	11.21	4,390
1-24	0415	8.66	1,880				

SACRAMENTO RIVER BASIN

11-3757. NORTH FORK COTTONWOOD CREEK NEAR IGO, CALIF.

LOCATION.--Lat 40°26'32", long 122°32'57", in SE¼NW¼ sec.21, T.30 N., R.6 W., near right bank on downstream side of bridge on Gas Point Road, 1.2 miles downstream from Huling Creek, 4.4 miles south of Igo, and 4.5 miles upstream from Middle Fork.

DRAINAGE AREA.--88.7 sq mi.

RECORDS AVAILABLE.--October 1956 to September 1967.

GAGE.--Graphic water-stage recorder. Altitude of gage is 630 ft (from topographic map).

AVERAGE DISCHARGE.--11 years, 169 cfs (122,400 acre-ft per year).

EXTREMES.--Maximum discharge during year, 3,470 cfs Jan. 30 (gage height, 55.09 ft); minimum daily, 4.2 cfs Nov. 1-5.

1956-67: Maximum discharge, 11,000 cfs Dec. 22, 1964 (gage height, 39.45 ft, in gage well, 41.7 ft, from floodmarks), from rating curve extended above 4,400 cfs on basis of slope-area measurement of maximum flow; minimum daily, 0.9 cfs Nov. 4, 1960.

Flood of Dec. 21, 1955, reached a peak discharge of 14,300 cfs by slope-area measurement at site 1.2 miles upstream (above Huling Creek) adjusted for intervening drainage area.

REMARKS.--Some storage for irrigation above station in Rainbow Lake (capacity, 4,800 acre-ft). Some flow diverted upstream to Clear Creek basin by Happy Valley Irrigation Canal.

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

REVISIONS (water years).--1966 report: 1960(M), 1961(M), 1963(M), 1964(M).

Discharge, in cubic feet per second, water year October 1966 to September 1967.

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.4	4.2	215	111	849	168	382	266	284	69	20	7.3
2	6.1	4.2	376	108	634	165	294	262	289	66	20	7.9
3	6.1	4.2	303	106	509	156	280	262	242	66	20	7.9
4	6.1	4.2	385	104	438	152	289	266	219	64	20	7.9
5	5.7	4.2	1180	104	392	149	349	271	219	61	18	9.2
6	5.7	5.7	498	101	368	140	326	276	204	61	18	9.8
7	5.7	7.9	397	101	354	135	753	321	196	59	18	10
8	5.4	6.5	344	101	344	129	593	397	185	52	16	9.8
9	5.1	6.5	312	93	344	124	599	588	175	49	16	10
10	4.5	11	438	95	335	200	676	476	165	47	16	10
11	5.1	14	321	95	326	215	849	392	149	45	16	11
12	5.4	40	280	92	335	219	683	354	159	45	14	10
13	5.7	52	354	92	330	196	582	321	140	42	14	9.2
14	5.4	146	280	89	321	193	492	307	126	42	14	9.2
15	5.4	294	219	89	316	196	460	316	92	38	12	3.5
16	5.4	200	178	89	307	571	438	335	83	40	12	7.9
17	5.4	116	178	86	298	368	664	335	80	38	12	10
18	5.1	116	172	80	298	294	498	316	73	37	12	13
19	4.8	204	175	78	280	266	476	303	78	37	10	12
20	4.5	438	168	548	226	423	454	298	106	35	9.8	10
21	4.5	226	156	753	223	373	412	294	101	35	9.2	9.2
22	4.5	189	149	215	219	335	423	280	95	33	9.2	9.2
23	4.5	156	143	178	211	326	465	276	95	33	9.2	9.2
24	4.5	135	132	492	208	303	382	266	92	33	9.2	9.2
25	4.8	121	129	289	219	284	349	253	89	33	9.2	9.2
26	4.5	113	124	1130	189	266	330	242	86	25	8.5	9.2
27	4.5	111	121	548	178	249	358	234	83	22	7.9	9.2
28	4.8	113	118	1300	175	245	316	226	80	22	7.3	8.5
29	5.1	118	116	1340	- - - -	242	284	226	75	22	6.9	7.9
30	5.1	104	113	1480	- - - -	335	271	219	72	22	7.3	8.5
31	4.8	- - - -	113	1380	- - - -	402	- - - -	215	- - - -	20	7.3	- - - -
Total	159.6	3064.6	8687	11472	9226	7819	14327	9393	4137	1293	399	279.9
Mean	5.15	102	280	370	330	252	478	303	138	41.7	12.9	9.33
Max	6.1	438	1180	1480	849	571	926	588	289	69	20	13
Min	4.5	4.2	113	78	175	124	271	215	72	20	6.9	7.3
Ac-ft	317	6079	17230	22750	18300	15510	28420	18630	8206	2565	791	555

Cal yr 1966: Total 59,368.6 Mean 139 Max 1,750 Min 3.6 Ac-ft 100,900
Wtr yr 1967: Total 70,257.1 Mean 192 Max 1,480 Min 4.2 Ac-ft 139,400

11-3758.2. SOUTH FORK COTTONWOOD CREEK NEAR COTTONWOOD, CALIF.

LOCATION.--Lat 40°18'59", long 122°26'52", in SE $\frac{1}{4}$ sec.32, T.29 N., R.5 W., on right bank 15 ft downstream from highway bridge, 0.7 mile upstream from Dry Fork, and 10.3 miles southwest of Cottonwood.

DRAINAGE AREA.--217 sq mi.

RECORDS AVAILABLE.--October 1962 to September 1967.

GAGE.--Digital water-stage recorder. Altitude of gage is 525 ft (from topographic map). October 1962 to Dec. 22, 1964, graphic water-stage recorder at site 85 ft upstream at different datum. Dec. 22, 1964, to Apr. 3, 1967, graphic water-stage recorder at present site and datum.

AVERAGE DISCHARGE.--5 years, 188 cfs (136,100 acre-ft per year).

EXTREMES.--Maximum discharge during year, 5,400 cfs Jan. 29 (gage height, 7.50 ft); no flow for many days. 1962-67: Maximum discharge, 13,400 cfs Dec. 22, 1964 (gage height, 13.6 ft, from floodmarks), from slope-area measurement of maximum flow; no flow for many days in each year.

REMARKS.--Small diversion above station. Records of suspended-sediment loads for the water year 1967 are published in Part 2 of this report.

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

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	391	74	1390	134	400	237	214	87	13	0.70
2		0	844	72	954	129	300	237	326	82	12	.50
3		0	722	68	755	129	237	237	248	75	12	.50
4		0	860	68	635	129	188	287	220	71	10	.50
5		0	2490	66	590	115	158	389	227	66	9.5	.50
6		0	907	66	533	115	451	414	227	62	9.0	.40
7		0	557	60	509	110	445	468	234	58	8.5	.40
8		0	414	60	474	110	321	702	227	55	8.2	.40
9		0	334	56	445	105	273	806	220	52	8.0	.40
10		0	352	56	433	110	315	670	220	48	7.4	.30
11		0	346	54	420	190	427	544	220	46	6.2	.30
12		0	352	54	414	180	280	440	207	42	5.1	.30
13		0	420	51	439	170	245	364	200	39	4.3	.30
14		.70	515	51	396	160	237	326	183	37	3.8	.30
15		83	414	54	352	150	220	370	183	34	3.2	.30
16		367	340	54	321	700	220	495	183	33	2.3	.30
17		171	280	54	294	600	252	607	177	31	1.8	.20
18		74	245	54	273	400	237	628	177	29	1.6	.30
19		84	204	54	252	250	252	565	177	28	.80	.20
20		805	196	131	196	360	252	551	160	26	.60	.30
21		551	163	2000	188	330	237	579	131	26	.50	.50
22		273	139	1660	196	310	237	579	137	24	.50	.70
23		90	129	830	179	290	252	551	128	23	.50	.60
24		37	115	1250	163	280	266	488	124	21	.50	.50
25		14	106	737	163	270	273	402	121	21	.40	.50
26		9.0	99	1530	153	250	252	345	121	19	.40	.50
27		8.1	93	1190	144	230	252	376	112	18	.40	.40
28		18	87	2140	134	220	245	268	105	17	.30	.40
29		427	84	4010	-----	210	237	220	98	17	2.7	.40
30		301	80	2850	-----	210	252	177	94	16	2.0	.40
31		-----	78	2560	-----	270	-----	172	-----	14	.80	-----
Total	0	3312.80	12356	22014	11395	7216	8213	13494	5401	1217	136.30	12.30
Mean	0	110	399	710	407	233	274	435	180	39.3	4.40	0.41
Max	0	805	2490	4010	1390	360	445	806	326	87	13	0.70
Min	0	0	78	51	134	105	158	172	94	14	.30	0.30
Ac-ft	0	6570	24510	43660	22600	14310	16290	26760	10710	2410	270	24.4

Cal yr 1966: Total 57509.9 Mean 158 Max 2490 Min 0 Ac-ft 114100
Wtr yr 1967: Total 84767.4 Mean 232 Max 4010 Min 0 Ac-ft 168100

Note.--No gage-height record Mar. 6 to Apr. 3.

SACRAMENTO RIVER BASIN

11-3760. COTTONWOOD CREEK NEAR COTTONWOOD, CALIF.

LOCATION.--Lat 40°23'10", long 122°14'15", in NE¼ sec.7, T.29 N., R.3 W., on right bank 2 miles east of Cottonwood and 2.4 miles upstream from mouth.

DRAINAGE AREA.--922 sq mi.

RECORDS AVAILABLE.--October 1940 to September 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is 364.0 ft above mean sea level (levels by Corps of Engineers). Prior to July 26, 1963, at site 250 ft upstream at datum 3.59 ft higher. Sept. 21-30, 1967, an auxiliary gage at a site a few hundred ft downstream at a different datum.

AVERAGE DISCHARGE.--27 years, 809 cfs (585,700 acre-ft per year); median of yearly mean discharges, 600 cfs (434,000 acre-ft per year).

EXTREMES.--Maximum discharge during year, 22,800 cfs Jan. 31 (gage height, 14.70 ft); minimum daily, 54 cfs Oct. 9, 20.

1940-67: Maximum discharge, 60,000 cfs Dec. 22, 1964 (gage height, 19.64 ft); minimum, 15 cfs for several days in September 1945.

REMARKS.--Records fair. Small diversions for irrigation above station. At times during irrigation season, Cottonwood Creek receives water above station from Sacramento River by way of Anderson-Cottonwood Canal. Records of chemical analyses, water temperatures, and suspended-sediment loads for the water year 1967 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	64	123	1,050	373	6,620	588	2,620	1,380	842	310	93	60
2	79	136	2,850	362	4,540	588	1,600	1,320	1,320	300	96	58
3	75	126	2,350	354	3,440	570	1,440	1,300	1,220	290	92	56
4	64	85	2,290	340	2,900	564	1,400	1,320	1,020	270	90	55
5	60	70	7,910	335	2,620	546	1,380	1,390	1,000	250	83	55
6	60	87	3,350	326	2,380	540	1,990	1,460	1,020	230	86	55
7	60	93	2,120	314	2,200	528	2,620	1,510	925	217	84	55
8	64	77	1,620	306	2,060	522	2,010	1,700	860	206	83	55
9	54	66	1,340	302	1,920	510	1,950	1,350	812	205	83	55
10	64	60	1,830	298	1,800	558	1,780	1,950	770	200	82	56
11	75	60	1,570	286	1,680	906	2,390	1,590	715	195	82	66
12	72	75	1,390	280	1,600	866	1,960	1,470	675	190	81	69
13	79	91	1,560	280	1,550	954	1,750	1,390	710	180	80	70
14	91	117	1,900	276	1,460	906	1,650	1,330	625	170	75	70
15	89	442	1,480	276	1,320	775	1,610	1,330	575	165	72	70
16	85	754	1,230	272	1,230	2,000	1,480	1,430	545	160	70	70
17	85	538	1,100	269	1,150	2,100	1,820	1,510	535	155	68	70
18	66	288	394	262	1,080	1,640	2,310	1,530	530	150	65	70
19	58	276	906	258	1,020	1,420	1,940	1,450	530	145	63	70
20	54	1,660	842	1,110	938	1,400	1,940	1,390	520	140	61	70
21	70	1,380	779	8,470	882	1,550	1,730	1,370	500	135	53	72
22	89	1,410	714	4,710	834	1,470	1,640	1,350	470	130	56	70
23	87	874	653	2,110	789	1,460	2,010	1,320	430	125	56	74
24	92	634	602	5,810	747	1,400	2,060	1,250	410	120	60	80
25	81	506	554	3,420	733	1,300	2,000	1,140	390	115	64	74
26	72	426	514	9,700	681	1,230	1,850	1,040	380	110	66	77
27	83	386	490	5,850	649	1,160	1,930	986	370	108	63	91
28	81	418	450	9,880	621	1,110	1,710	932	360	106	63	82
29	89	930	434	15,600	---	1,070	1,600	890	340	104	68	88
30	98	890	418	11,200	---	1,060	1,470	842	320	102	66	73
31	106	---	402	13,100	---	1,480	---	794	---	100	62	---
Total	2,346	13,583	46,196	96,734	49,444	32,771	55,540	41,514	19,720	5,383	2,291	2,040
Mean	75.7	453	1,490	3,120	1,766	1,057	1,851	1,339	657	174	73.9	63.0
Max	106	1,880	7,910	15,600	6,620	2,100	2,620	1,950	1,320	310	98	91
Min	54	60	402	258	621	510	1,380	794	320	100	56	55
Ac-ft	4,650	26,940	91,630	191,900	98,070	65,000	110,200	82,340	39,110	10,680	4,540	4,050

Cal yr 1966: Total 245,818 Mean 673 Max 9,200 Min 42 Ac-ft 487,600
Wtr yr 1967: Total 367,562 Mean 1,010 Max 15,600 Min 54 Ac-ft 729,000

Peak discharge (base, 7,100 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-05	0600	12.50	10,300	1-26	1300	14.04	18,800
1-21	1700	12.35	11,900	1-29	0830	13.99	18,600
1-24	0830	11.66	8,610	1-31	0730	14.70	22,800

Note.--No gage-height record June 20 to July 6, July 9 to Sept. 20.

SACRAMENTO RIVER BASIN

805

11-3785.5. BATTLE CREEK BELOW COLEMAN FISH HATCHERY NEAR COTTONWOOD, CALIF.

LOCATION.--Lat 40°23'55", long 122°08'45", in SW¼NE¼ sec.1, T.29 N., R.3 W., on right bank 3.7 miles downstream from Spring Branch, 5.7 miles upstream from mouth, and 7.0 miles east of Cottonwood.

DRAINAGE AREA.--358 sq mi.

RECORDS AVAILABLE.--October 1961 to September 1967. October 1940 to September 1961 at site 0.6 mile upstream published as "near Cottonwood"; low flow records not equivalent owing to Coleman Fish Hatchery diversion.

GAGE.--Digital water-stage recorder. Altitude of gage is 415 ft (from topographic map). Prior to July 1, 1964, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--6 years, 454 cfs (328,700 acre-ft per year).

EXTREMES.--Maximum discharge during year, 8,020 cfs Jan. 21 (gage height, 11.23 ft); minimum daily, 209 cfs Oct. 18.

1940-67: Maximum discharge, 12,800 cfs Feb. 6, 1942 (gage height, 11.85 ft, site and datum then in use).

1961-67: Minimum discharge, 52 cfs Aug. 8, 1962.

Maximum stage known, 15.8 ft Dec. 11, 1937, from floodmarks at former site and datum (discharge, 35,000 cfs, by slope-area measurement).

REMARKS.--Records excellent. Flow regulated by four small powerplants, several small reservoirs, and Coleman Fish Hatchery. Coleman Fish Hatchery diverts 50 to 90 cfs which is returned above the station. Ten cfs diverted above station for irrigation. Maximum flows considered equivalent to former station Battle Creek near Cottonwood. Records of water temperatures and suspended-sediment loads for the water year 1967 are published in Part 2 of this report.

REVISIONS (water year).--1965 report: 1963.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	224	233	726	318	1,250	414	686	665	874	645	336	255
2	225	230	2,190	313	944	409	579	656	823	632	334	250
3	220	236	1,450	312	786	401	579	659	766	617	327	255
4	221	237	795	312	709	394	562	673	758	591	324	250
5	219	238	1,370	312	656	389	552	693	805	565	316	255
6	220	305	750	301	617	388	928	693	769	544	314	254
7	220	312	573	302	588	399	815	727	769	530	312	257
8	218	271	507	301	564	394	674	840	771	514	303	250
9	215	261	461	300	515	394	638	959	843	500	295	248
10	218	254	567	300	505	407	608	977	831	486	289	249
11	217	263	483	301	494	974	656	831	852	461	285	257
12	218	324	439	298	491	918	602	764	905	467	282	260
13	218	314	620	296	499	795	584	718	897	469	272	270
14	220	293	584	297	499	641	579	730	821	457	270	269
15	222	326	476	295	485	545	584	804	819	430	273	260
16	220	739	443	294	476	1,530	557	942	815	412	275	265
17	225	389	421	291	471	1,190	626	1,070	830	415	258	265
18	209	319	401	292	461	870	731	1,150	840	403	264	265
19	220	593	390	292	454	763	984	1,210	877	401	260	265
20	228	1,770	380	410	437	728	738	1,230	840	384	260	265
21	218	649	367	3,200	432	715	650	1,290	816	382	260	263
22	235	583	358	1,450	429	689	632	1,350	775	375	262	269
23	228	395	361	773	424	761	766	1,380	728	370	264	273
24	215	343	365	1,040	422	698	920	1,380	707	363	256	267
25	220	319	349	665	455	637	871	1,250	695	357	255	267
26	225	307	344	1,080	443	601	857	1,140	693	353	255	267
27	229	302	331	1,390	425	574	1,220	1,090	661	351	257	265
28	235	644	325	1,770	420	567	871	1,070	658	351	260	263
29	227	1,390	326	2,470	-----	559	756	1,050	655	355	265	262
30	228	593	325	2,260	-----	552	717	974	665	353	259	268
31	225	-----	320	2,200	-----	558	-----	909	-----	351	261	-----
TOTAL	6,882	13,432	17,797	24,435	15,351	19,854	21,522	29,874	23,558	13,884	8,703	7,828
MEAN	222	448	574	788	548	640	717	964	785	448	281	261
MAX	235	1,770	2,190	3,200	1,250	1,530	1,220	1,380	905	645	336	273
MIN	209	230	320	291	420	388	552	656	655	351	255	248
AC-FT	13,650	26,640	35,300	48,470	30,450	39,380	42,690	59,250	46,730	27,540	17,260	15,530

CAL YR 1966: TOTAL 134,851 MEAN 369 MAX 2,190 MIN 189 AC-FT 267,500
WAT YR 1967: TOTAL 203,120 MEAN 556 MAX 3,200 MIN 209 AC-FT 402,900

Peak discharge (base, 2,500 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-20	0045	7.69	3,440	1-21	1500	11.23	8,020
12-2	2015	9.90	6,200	1-30	1830	7.96	3,760

SACRAMENTO RIVER BASIN

11-3780. SACRAMENTO RIVER NEAR RED BLUFF, CALIF.

LOCATION.--Lat 40°13'55", long 122°10'50", in SE¼ sec.34, T.28 N., R.3 W., on left bank at lower end of Iron Canyon, 0.5 mile downstream from Sevenmile Creek, and 4.6 miles northeast of Red Bluff.

DRAINAGE AREA.--9,022 sq mi, excluding Goose Lake basin.

RECORDS AVAILABLE.--1879-88 annual observed maximums only, published in WSP 1315-A. January 1892 to September 1967. 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, and as "at Jellys Ferry" 1895-1902.

GAGE.--Graphic water-stage recorder. Datum of gage is 253.57 ft above mean sea level, datum of 1929. Prior to January 1902, staff gage at site 16.2 miles upstream at different datum. January 1902 to December 1919, staff gage at several sites within 1 mile of present site at same datum.

AVERAGE DISCHARGE.--76 years, 11,470 cfs (8,304,000 acre-ft per year).

EXTREMES.--Maximum discharge during year, 93,600 cfs Jan. 31 (gage height, 19.55 ft); minimum daily, 5,280 cfs Jan. 17-19.

1879-88, 1892-1967: Maximum discharge, 291,000 cfs Feb. 28, 1940 (gage height, 38.9 ft), from rating curve extended above 170,000 cfs on basis of velocity-area studies; minimum, 2,000 cfs Mar. 29, 1944 (gage height, -0.45 ft).

REMARKS.--Records excellent. Flow regulated by Shasta Lake since Dec. 30, 1943 (see sta. no. 3700). Diversions, in addition to those on tributaries, for irrigation of 22,000 acres between stations at Keswick and Red Bluff. Transbasin diversions from Trinity River to Whiskeytown Lake via Judge Francis Carr powerplant (see sta. no. 5254.3) started in April 1963. Records of chemical analyses, water temperatures, and suspended sediment loads at or near this gaging station for the water year 1967 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.780	8.000	18.500	9.750	58.600	9.690	16.300	19.900	16.900	14.000	13.000	12.000
2	7.750	8.000	23.200	9.660	51.900	9.350	12.000	18.500	17.200	13.900	13.000	12.000
3	7.750	8.100	36.500	9.600	48.600	9.230	10.700	18.300	17.300	14.200	13.000	12.000
4	7.670	8.130	22.300	8.670	47.200	8.700	9.950	18.000	16.700	13.800	12.900	12.000
5	7.700	8.020	39.500	7.620	46.200	8.620	9.580	17.000	16.700	13.900	12.900	12.000
6	7.730	8.370	44.700	6.670	44.800	8.560	12.000	16.200	16.700	13.800	12.900	11.900
7	7.730	8.590	49.000	6.540	38.600	7.730	18.000	16.000	16.400	13.500	12.900	11.900
8	7.750	8.320	52.500	6.540	28.300	7.590	18.200	15.500	15.400	13.300	12.800	11.600
9	7.750	8.160	53.000	6.520	21.800	7.190	17.500	15.900	15.700	13.300	12.900	11.400
10	7.730	8.130	49.100	6.050	19.400	6.770	17.200	19.300	15.500	13.300	12.900	11.400
11	7.750	8.160	26.300	5.860	18.400	9.720	18.200	19.300	15.300	13.200	12.900	11.400
12	7.780	8.460	20.700	5.370	18.200	9.350	16.400	19.200	15.300	13.200	12.800	11.400
13	7.780	8.540	20.200	5.300	18.100	9.690	18.800	20.300	15.300	13.200	12.800	11.400
14	7.810	8.460	21.900	5.320	16.900	10.800	20.100	19.800	15.000	13.100	12.700	11.200
15	7.750	9.090	19.300	5.300	16.300	9.200	19.600	19.600	14.900	13.200	12.700	11.000
16	7.780	11.300	18.300	5.300	15.400	16.600	19.100	19.900	14.900	13.100	12.700	11.000
17	7.780	9.430	17.800	5.280	15.000	15.300	19.500	20.500	14.800	13.200	12.600	11.000
18	7.730	8.700	17.600	5.280	14.100	13.300	28.100	20.500	14.900	13.200	12.600	11.000
19	7.750	9.380	17.300	5.280	13.900	11.600	27.200	20.500	14.800	13.100	12.500	10.700
20	7.780	19.000	17.200	9.460	13.500	10.700	25.600	22.000	14.700	13.100	12.600	10.400
21	7.810	13.500	17.000	5.3800	12.300	11.200	24.000	22.900	14.700	13.100	12.600	10.400
22	7.780	15.000	16.900	29.000	10.800	10.300	22.900	23.000	14.600	13.100	12.600	10.400
23	7.810	12.900	16.700	12.400	10.300	10.200	24.600	23.000	14.400	13.100	12.500	10.400
24	7.780	14.700	16.000	17.700	10.300	10.200	26.500	23.300	14.400	13.100	12.500	10.400
25	7.750	14.500	15.400	16.300	10.700	9.520	25.800	22.900	14.300	13.100	12.500	10.400
26	7.780	14.500	15.300	25.500	10.400	9.070	23.800	21.900	14.300	13.100	12.500	10.400
27	7.780	14.300	15.200	23.700	10.200	8.700	26.700	20.600	14.200	13.000	12.500	10.300
28	7.780	15.600	14.300	31.900	10.000	8.540	22.800	19.300	14.100	13.000	12.500	9.980
29	7.810	20.400	12.500	55.400	- - - - -	8.560	21.300	18.700	14.100	13.100	12.200	9.980
30	7.860	16.400	11.700	56.000	- - - - -	8.470	20.500	18.100	14.100	13.100	12.100	9.750
31	7.920	- - - - -	10.100	77.400	- - - - -	11.900	- - - - -	17.700	- - - - -	13.000	12.000	- - - - -
Total	240.890	334.140	751.000	534.470	650.100	306.350	592.930	607.600	457.600	412.300	392.300	331.110
Mean	7.771	11.140	24.230	17.240	23.220	9.882	19.760	19.600	15.250	13.300	12.650	11.040
Max	7.920	20.400	53.000	77.400	58.600	16.600	28.100	23.300	17.300	14.200	13.000	12.000
Min	7.670	8.000	10.100	5.280	10.000	6.770	9.580	15.500	14.100	13.000	12.000	9.750
Ac-ft	477.800	662.800	1,490.000	1,060.000	1,289.000	607.600	1,176.000	1,205.000	907.600	817.800	778.100	656.700
Cal yr 1966: Total	4,556.610	Mean	12.480	Max	63.800	Min	6.350	Ac-ft	9,038.000			
Wtr yr 1967: Total	5,610.790	Mean	15.370	Max	77.400	Min	5.280	Ac-ft	11,130.000			

11-3788. RED BANK CREEK NEAR RED BLUFF, CALIF.

LOCATION.--Lat 40°05'25", long 122°24'45", in SE¼ sec.22, T.26 N., R.5 W., on road bridge near left bank, 0.1 mile downstream from unnamed tributary, 1.8 miles southeast of town of Red Bank, and about 13 miles west of Red Bluff.

DRAINAGE AREA.--93.5 sq mi.

RECORDS AVAILABLE.--October 1959 to September 1967.

GAGE.--Digital water-stage recorder. Altitude of gage is 470 ft (from topographic map). Prior to Apr. 4, 1967, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--8 years, 38.8 cfs (28,090 acre-ft per year).

EXTREMES.--Maximum discharge during year, 5,700 cfs Jan. 30 (gage height, 8.65 ft); no flow for several months. 1959-67: Maximum discharge, 9,730 cfs Jan. 5, 1965 (gage height, 10.06 ft); no flow for several months in each year.

REMARKS.--Some small storage ponds and possibly some diversions for irrigation upstream. Records of chemical analyses for the water year 1967 are published in Part 2 of this report.

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

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	47	8.4	544	17	59	65	12	1.5		
2		0	702	7.8	363	17	63	60	142	1.1		
3		0	222	7.8	268	15	49	55	60	.80		
4		0	1060	7.8	213	15	41	53	31	.50		
5		0	811	7.2	161	13	36	50	23	.40		
6		0	157	6.2	124	12	179	45	23	.10		
7		0	81	5.9	105	12	414	42	24	0		
8		0	55	5.9	79	12	161	41	20	0		
9		0	39	5.9	67	12	120	41	18	0		
10		0	57	5.9	57	13	161	39	16	0		
11		0	47	5.5	53	24	398	36	14	0		
12		0	39	5.5	48	25	170	34	14	0		
13		0	49	5.2	44	35	128	29	14	0		
14		0	55	4.9	38	23	107	26	12	0		
15		0	39	4.9	35	22	92	24	10	0		
16		0	32	4.6	33	321	84	22	8.3	0		
17		0	28	4.6	33	150	128	20	7.2	0		
18		0	22	4.6	32	94	97	20	6.7	0		
19		69	20	4.6	27	73	148	18	6.7	0		
20		387	18	136	25	59	123	16	6.2	0		
21		125	16	779	24	57	97	14	5.8	0		
22		43	14	123	24	51	151	14	4.5	0		
23		17	12	53	24	47	216	12	4.1	0		
24		11	12	1110	23	43	148	10	3.7	0		
25		8.4	12	186	23	38	136	9.5	3.4	0		
26		7.1	12	1570	20	36	122	9.5	3.1	0		
27		6.3	10	782	19	32	107	8.9	2.8	0		
28		27	9.8	959	17	30	102	8.9	2.5	0		
29		65	9.8	1180	- - - -	26	84	8.9	1.9	0		
30		26	9.1	1350	- - - -	101	73	7.8	1.9	0		
31		- - - -	8.4	1400	- - - -	81	- - - -	7.8	- - - -	0		- - - -
Total	0	791.8	3705.1	9841.2	2523	1506	3999	947.3	511.8	4.40	0	0
Mean	0	26.4	120	317	90.1	48.6	133	27.3	17.1	0.14	0	0
Max	0	387	1060	1670	544	321	414	65	142	1.5	0	0
Min	0	0	8.4	4.6	17	12	36	7.8	1.9	0	0	0
Ac-ft	0	1570	7350	19520	5000	2990	7930	1680	1020	8.7	0	0
Cal yr 1966: Total	16369.1	Mean	44.8	Max	2100	Min	0	Ac-ft	32470			
Wtr yr 1967: Total	23729.6	Mean	65.0	Max	1670	Min	0	Ac-ft	42070			

SACRAMENTO RIVER BASIN

11-3788.6. RED BANK CREEK AT RAWSON ROAD BRIDGE, NEAR RED BLUFF, CALIF.

LOCATION.--Lat 40°08'20", long 122°14'20", in La Barranca Colorada land grant, on the right bank upstream side of Rawson Road bridge, 2.6 miles south of Red Bluff.

DRAINAGE AREA.--109 sq mi.

RECORDS AVAILABLE.--October 1964 to September 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is 275.02 ft above mean sea level (levels by Bureau of Reclamation). Prior to Oct. 1, 1965, at datum 10.00 ft higher.

EXTREMES.--Maximum discharge during year, 4,750 cfs Jan. 30 (gage height, 18.01 ft), from rating curve extended above 240 cfs; no flow for several months.

1964-67: Maximum discharge, 12,900 cfs Jan. 5, 1965 (gage height, 26.17 ft, present datum), from rating curve extended above 5,100 cfs; no flow for many days in each year.

REMARKS.--No known regulation or diversion above station. Records of suspended-sediment loads for the water year 1967 are published in Part 2 of this report.

COOPERATION.--Records furnished by Bureau of Reclamation and reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	34	7.7	683	18	94	77	7.8			
2		0	737	6.6	355	17	82	69	132			
3		0	478	5.6	190	16	57	61	109			
4		0	482	6.0	143	16	48	57	48			
5		0	1,260	6.3	122	14	41	53	32			
6		0	261	5.1	108	13	293	50	28			
7		0	74	4.2	98	12	417	45	23			
8		0	47	4.2	89	12	178	43	20			
9		0	36	4.0	82	11	121	42	16			
10		0	41	4.2	75	12	115	43	13			
11		0	48	4.5	68	18	477	41	11			
12		0	35	4.2	64	27	192	38	9.4			
13		0	36	4.2	61	34	129	35	9.2			
14		0	62	3.7	55	31	108	32	8.6			
15		0	45	2.9	51	26	91	29	6.4			
16		0	37	2.5	48	230	79	27	4.9			
17		0	34	2.1	45	123	121	24	3.5			
18		0	28	1.6	42	83	109	21	2.2			
19		45	24	1.8	38	65	133	19	1.4			
20		535	20	65	33	53	183	17	.90			
21		190	18	1,150	29	54	111	15	.50			
22		125	16	387	27	49	162	12	.20			
23		34	13	122	26	44	377	9.4	0			
24		19	13	1,470	26	42	204	7.5	0			
25		12	12	779	28	36	142	7.0	0			
26		8.8	11	1,690	24	33	160	6.7	0			
27		8.4	10	1,210	22	31	119	6.6	0			
28		17	8.8	1,290	19	29	125	6.6	0			
29		89	8.7	1,710	-----	27	100	6.4	0			
30		40	9.6	1,640	-----	63	87	6.3	0			
31		-----	8.8	1,660	-----	151	-----	5.5	-----			
Total												
Mean	0	1,123.2	3,947.9	13,254.4	2,651	1,390	4,655	912.0	487.00	0	0	0
Max	0	37.4	127	428	94.7	44.8	155	29.4	16.2	0	0	0
Min	0	535	1,260	1,710	683	230	477	77	132	0	0	0
Ac-ft	0	0	8.7	1.6	19	11	41	5.5	0	0	0	0
	0	2,230	7,830	26,290	5,260	2,760	9,230	1,810	966	0	0	0
Cal yr 1966: Total	16,654.8	Mean	45.6	Max	1,520	Min	0	Ac-ft	33,030			
Wtr. yr 1967: Total	28,420.5	Mean	77.9	Max	1,710	Min	0	Ac-ft	56,370			

11-3790. ANTELOPE CREEK NEAR RED BLUFF, CALIF.

LOCATION.--Lat 40°12'10", long 122°07'05", in Rio De Los Berrendos Grant, on right bank 1.8 miles upstream from diversion dam of Los Molinos Mutual Water Co., 6.5 miles east of Red Bluff, and 9.7 miles upstream from mouth.

DRAINAGE AREA.--123 sq mi.

RECORDS AVAILABLE.--October 1940 to September 1967.

GAGE.--Digital water-stage recorder. Altitude of gage is 360 ft (from topographic map). Prior to Sept. 18, 1954, graphic water-stage recorder at site 0.6 mile downstream at different datum. Sept. 18, 1954, to Oct. 1, 1964, graphic water-stage recorder at present site and datum.

AVERAGE DISCHARGE.--27 years, 143 cfs (103,500 acre-ft per year); median of yearly mean discharges, 125 cfs (90,500 acre-ft per year).

EXTREMES.--Maximum discharge during year, 5,990 cfs Dec. 2 (gage height, 11.48 ft); minimum daily, 32 cfs for several days in October.

1940-67: Maximum discharge, 11,500 cfs Feb. 22, 1956 (gage height, 12.43 ft); maximum gage height, 13.96 ft Oct. 12, 1962; minimum discharge, 8.2 cfs Oct. 27, 1961.

Flood of December 1937, reached a stage of about 22 ft from floodmarks, at former site and datum.

REMARKS.--Records good. Small diversion above station for Red Bluff water supply during October to June of each year.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	33	36	374	60	902	86	220	263	266	97	46	41
2	32	36	1,810	58	557	84	189	238	234	91	46	41
3	33	37	1,020	57	396	82	191	224	213	85	45	41
4	33	37	678	55	305	80	180	220	203	79	45	41
5	32	37	1,180	54	251	78	213	218	216	75	45	41
6	32	65	451	54	214	75	804	210	206	72	45	41
7	32	58	268	54	190	74	531	210	206	69	45	41
8	32	40	188	54	171	73	359	237	205	66	45	41
9	32	38	148	54	155	72	288	281	215	64	44	41
10	32	37	163	54	144	75	265	306	217	63	44	41
11	32	37	142	54	134	643	392	272	233	61	44	41
12	33	42	134	54	127	612	310	250	240	59	43	41
13	33	47	148	53	124	522	247	219	220	57	43	41
14	33	43	168	53	123	326	228	208	207	56	43	40
15	35	67	140	52	116	265	210	222	203	55	43	40
16	35	157	128	52	112	1,420	200	268	196	54	42	40
17	34	71	116	51	108	798	380	325	198	54	42	40
18	34	52	108	51	103	522	462	365	193	54	42	44
19	34	282	101	51	99	414	448	396	196	53	42	43
20	35	1,120	94	299	94	416	373	414	191	52	41	42
21	34	330	90	2,350	90	374	305	435	180	52	41	41
22	35	464	85	981	88	324	286	460	164	51	41	41
23	36	149	80	408	86	345	402	475	149	50	41	41
24	36	97	77	605	86	318	510	485	142	50	41	41
25	36	77	75	357	120	272	591	453	135	49	41	41
26	36	67	72	442	107	239	598	406	129	49	41	41
27	36	62	70	645	94	212	765	382	119	48	43	40
28	36	249	68	839	89	197	508	365	113	48	41	40
29	36	830	66	1,700	-----	193	383	338	108	49	41	40
30	37	257	64	1,540	-----	181	306	317	103	48	41	40
31	36	-----	62	1,990	-----	197	-----	291	-----	47	41	-----
TOTAL	1,055	4,921	8,368	13,181	5,185	9,569	11,144	9,753	5,600	1,857	1,328	1,228
MEAN	34.0	164	270	425	185	309	371	315	187	59.9	42.8	40.9
MAX	37	1,120	1,810	2,350	902	1,420	804	485	266	97	46	44
MIN	32	36	62	51	86	72	180	208	103	47	41	40
AC-FT	2,090	9,760	16,600	26,140	10,280	18,980	22,100	19,340	11,110	3,680	2,630	2,440

CAL YR 1966: TOTAL 39,127 MEAN 107 MAX 1,810 MIN 29 AC-FT 77,610
WAT YR 1967: TOTAL 73,189 MEAN 201 MAX 2,350 MIN 32 AC-FT 145,200

Peak discharge (base, 2,200 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-20	0045	8.41	2,490	1-29	0615	8.70	2,720
12-02	2015	11.48	5,990	1-31	0415	9.08	3,040
12-05	0115	8.27	2,380	3-16	0430	8.34	2,430
1-21	1015	10.88	5,090				

SACRAMENTO RIVER BASIN

11-3795. ELDER CREEK NEAR PASKENTA, CALIF.

LOCATION.--Lat 40°01'30", long 122°30'35", in SE $\frac{1}{4}$ sec.14, T.25 N., R.6 W., on left bank 2.5 miles downstream from South Fork Elder Creek, 8.2 miles northwest of Flournoy, and 10 miles north of Paskenta.

DRAINAGE AREA.--92.9 sq mi.

RECORDS AVAILABLE.--October 1948 to September 1967. Monthly discharge only for some periods, published in WSP 1315-A.

GAGE.--Digital water-stage recorder. Datum of gage is 718.1 ft above mean sea level. Prior to Aug. 13, 1965, graphic water-stage recorder at site 300 ft downstream at datum 5.13 ft lower. Aug. 13, 1965, to Oct. 12, 1965, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--19 years, 96.6 cfs (69,940 acre-ft per year); median of yearly mean discharges, 78 cfs (56,470 acre-ft per year).

EXTREMES.--Maximum discharge during year, 5,540 cfs Dec. 4 (gage height, 7.91 ft), from rating curve extended above 1,500 cfs; minimum daily, 1.8 cfs Oct. 10.

1948-67: Maximum discharge, 11,700 cfs Feb. 24, 1958 (gage height, 13.90 ft, site and datum then in use), from rating curve extended above 3,500 cfs on basis of slope-area measurements at gage heights 10.97 and 13.90 ft; no flow at times in some years.

REMARKS.--Records good. No regulation or large diversion above station. Records of suspended-sediment loads for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1.9	2.6	196	37	726	77	137	171	128	36	15	6.4
2	2.2	2.8	715	36	497	75	119	172	882	36	15	6.4
3	2.4	2.8	352	35	398	77	127	188	297	35	14	6.3
4	2.3	2.7	1,420	34	358	71	117	212	212	34	14	6.2
5	2.1	2.9	1,350	33	336	67	126	229	206	32	13	6.2
6	2.3	6.1	365	31	306	65	299	220	186	32	13	6.2
7	2.4	9.5	216	30	287	62	317	263	164	31	13	6.2
8	2.3	6.9	156	29	267	59	212	363	148	30	12	6.3
9	1.9	5.7	128	29	246	59	179	362	134	29	11	6.5
10	1.8	5.4	202	28	243	75	338	286	122	28	11	6.6
11	1.9	5.9	142	28	224	98	459	233	116	27	11	6.6
12	2.2	14	135	28	229	103	249	198	117	27	11	6.3
13	2.3	14	174	27	228	89	211	179	107	26	9.9	5.6
14	2.4	20	176	27	200	78	186	176	94	24	9.4	5.2
15	2.5	90	141	28	177	96	166	206	86	24	8.9	5.1
16	2.6	141	123	27	160	580	150	253	80	23	8.5	5.1
17	2.6	33	110	27	144	277	190	280	75	23	8.4	5.8
18	2.6	21	99	26	134	205	157	268	71	22	8.1	7.4
19	2.6	607	92	26	124	171	365	242	67	22	7.8	6.5
20	2.7	802	87	566	114	180	251	234	64	21	7.7	5.4
21	2.4	247	79	1,660	108	182	228	225	62	20	7.7	5.1
22	2.6	140	72	503	103	170	298	212	57	20	7.4	5.2
23	2.8	73	67	277	98	174	391	194	54	19	7.4	5.4
24	2.8	49	61	803	97	157	339	165	51	19	7.5	5.1
25	2.8	38	56	398	94	145	315	140	49	19	7.7	5.1
26	2.8	33	51	1,370	86	134	274	127	46	18	9.9	4.7
27	3.0	31	47	693	82	124	257	118	44	17	8.8	4.5
28	3.2	119	45	1,190	79	120	225	110	42	17	7.9	4.5
29	2.8	160	43	2,600	-----	111	201	101	40	17	7.4	4.7
30	2.8	101	41	1,760	-----	166	184	93	38	17	6.7	5.2
31	2.6	-----	39	1,370	-----	141	-----	87	-----	16	6.4	-----
TOTAL	76.6	2,786.3	6,980	13,756	6,145	4,188	7,067	6,307	3,839	761	306.5	171.8
MEAN	2.47	92.9	225	444	219	135	236	203	128	24.5	9.89	5.73
MAX	3.2	802	1,420	2,600	726	580	459	363	882	36	15	7.4
MIN	1.8	2.6	39	26	79	59	117	87	38	16	6.4	4.5
AC-FT	152	5,530	13,840	27,280	12,190	8,310	14,020	12,510	7,610	1,510	608	341

CAL YR 1966: TOTAL 33,519.7 MEAN 91.8 MAX 2,220 MIN 1.4 AC-FT 66,490
 WAT YR 1967: TOTAL 52,384.2 MEAN 144 MAX 2,600 MIN 1.8 AC-FT 103,900

Peak discharge (base, 1,200 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-19	1930	7.04	3,810	1-26	0900	6.96	3,670
12-02	1615	5.73	1,930	1-29	0530	7.67	5,040
12-04	2245	7.91	5,540	6-02	0300	5.33	1,560
1-21	0730	6.49	2,910				

SACRAMENTO RIVER BASIN

811

11-3805. ELDER CREEK AT GERBER, CALIF.

LOCATION.--Lat 40°03'05", long 122°09'53", in Saucos Grant, on right bank 1.0 mile west of Gerber, and 3.5 miles upstream from mouth.

DRAINAGE AREA.--136 sq mi.

RECORDS AVAILABLE.--October 1949 to September 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is 232.14 ft above mean sea level (from Bureau of Reclamation bench mark). Prior to Oct. 1, 1961, at site about 150 ft upstream at datum 4.32 ft higher.

AVERAGE DISCHARGE.--18 years, 102 cfs (73,840 acre-ft per year); median of yearly mean discharges, 85 cfs (61,500 acre-ft per year).

EXTREMES.--Maximum discharge during year, 6,150 cfs Jan. 30 (gage height, 11.07 ft); no flow for many days. 1949-67: Maximum discharge, 14,100 cfs Jan. 5, 1965 (gage height, 14.90 ft); no flow at times in each year.

REMARKS.--Records fair except those for period of no gage-height record, which are poor.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	111	41	883	86	199	202	82	20	4.1	0.50
2		0	1,040	41	593	84	182	196	678	19	3.9	.40
3		0	390	39	435	84	182	199	420	17	3.7	.40
4		0	787	39	376	82	173	213	264	16	3.6	.40
5		0	1,750	35	350	78	171	236	216	15	3.4	.30
6		0	430	34	327	76	341	228	206	14	3.3	.30
7		0	256	32	300	74	480	248	185	14	3.1	.30
8		0	182	31	272	73	296	354	164	13	2.8	.30
9		0	144	30	256	73	240	410	141	12	2.6	.30
10		0	183	28	252	76	275	345	127	11	2.4	.20
11		0	150	27	244	104	568	276	118	11	2.3	.20
12		0	130	27	232	96	340	232	108	10	2.1	.20
13		0	133	26	236	106	272	202	108	9.8	2.0	.20
14		0	174	25	213	88	232	188	88	9.2	1.8	.20
15		0	136	24	182	84	210	199	76	8.7	1.7	.20
16		53	114	24	160	509	192	240	69	8.4	1.6	.20
17		.50	98	23	147	381	216	280	63	8.0	1.5	.20
18		.50	90	23	138	292	202	292	61	7.5	1.4	.20
19		294	82	22	127	256	314	264	56	7.2	1.3	.20
20		523	78	199	114	240	336	244	53	6.8	1.2	.20
21		232	69	2,050	108	260	252	236	58	6.5	1.1	.10
22		138	66	691	106	244	298	220	52	6.2	1.0	.10
23		66	62	340	101	240	568	210	43	5.9	.90	.10
24		45	56	1,250	101	228	455	192	35	5.7	.90	.10
25		38	51	562	93	213	410	164	33	5.4	.80	.10
26		39	48	1,580	92	206	381	144	31	5.2	.70	.10
27		48	45	726	88	196	318	130	29	5.0	.70	.10
28		74	44	1,070	86	183	292	114	26	4.8	.60	.10
29		147	44	2,310	-----	185	244	101	23	4.6	.60	0
30		69	44	2,100	-----	210	216	92	22	4.4	.60	0
31		-----	43	1,370	-----	264	-----	76	-----	4.2	.50	-----
Total	0	1,767.00	7,040	15,319	6,627	5,376	8,860	6,727	3,638	295.5	58.20	6.20
Mean	0	58.9	227	494	237	173	295	217	121	9.53	1.88	0.21
Max	0	523	1,750	2,310	888	509	568	410	678	20	4.1	.50
Min	0	0	43	22	86	73	171	76	22	4.2	.50	0
Ac-ft	0	3,500	13,960	30,380	13,140	10,660	17,570	13,340	7,220	586	115	12

Cal yr 1966: Total 34,679.20 Mean 95.0 Max 2,440 Min 0 Ac-ft 68,790
Wtr yr 1967: Total 55,713.90 Mean 153 Max 2,310 Min 0 Ac-ft 110,500

Peak discharge (base, 1,200 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-02	1500	8.27	2,650	1-26	1230	9.54	4,050
12-04	2300	9.38	3,870	1-29	0900	9.43	3,890
1-21	1100	8.61	3,020	1-30	1630	11.07	6,150
1-24	0730	7.81	2,090				

Note.--No gage-height record June 29 to Sept. 30.

SACRAMENTO RIVER BASIN

11-3815. MILL CREEK NEAR LOS MOLINOS, CALIF.

LOCATION.--Lat 40°03'17", long 122°01'23", in NE¼NW¼ sec.6, T.25 N., R.1 W., on right bank 4.5 miles northeast of Los Molinos and 10.0 miles (revised) upstream from mouth.

DRAINAGE AREA.--131 sq mi.

RECORDS AVAILABLE.--September 1909 to August 1913 (fragmentary), October 1928 to September 1967.

GAGE.--Digital water-stage recorder. Altitude of gage is 380 ft (from topographic map). September 1909 to September 1913, staff gage at site 0.3 mile downstream at different datum. October 1928 to Oct. 5, 1964, graphic water-stage recorder at present site and datum.

AVERAGE DISCHARGE.--39 years (1928-67), 293 cfs (212,100 acre-ft per year).

EXTREMES.--Maximum discharge during year, 6,780 cfs Dec. 2 (gage height, 9.49 ft); minimum daily, 86 cfs for several days in October and November.

1928-67: Maximum discharge, 23,000 cfs Dec. 11, 1937 (gage height, 23.4 ft, from floodmarks), from rating curve extended above 7,000 cfs on basis of slope-area measurement of maximum flow; minimum, 49 cfs Dec. 13, 1932.

REMARKS.--Records good except those for period of no gage-height record, which are fair. No storage or large diversion above station. Records of chemical analyses near this station for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	86	86	736	145	1,250	219	369	450	850	526	167	128
2	87	86	2,400	142	839	216	336	440	825	512	167	127
3	88	86	1,390	140	621	213	354	440	805	493	168	127
4	88	86	1,100	141	519	208	330	450	790	448	167	127
5	88	86	1,610	141	446	201	375	460	770	411	161	127
6	88	114	792	136	400	198	1,030	480	750	383	159	126
7	88	127	513	136	373	200	698	570	740	378	158	125
8	88	101	392	138	349	202	497	770	720	360	158	123
9	88	96	318	139	330	208	440	930	720	335	153	122
10	86	94	301	141	323	221	450	1,100	710	319	151	122
11	86	97	288	141	316	923	538	840	705	312	150	122
12	88	149	260	141	314	769	443	630	705	312	145	122
13	88	163	283	141	330	626	401	565	700	302	142	122
14	88	137	332	141	328	435	405	580	700	293	141	121
15	88	191	277	141	306	398	382	680	690	283	141	118
16	90	636	247	141	291	1,810	356	850	670	278	139	117
17	91	212	227	141	277	1,250	664	940	650	273	136	117
18	91	151	211	138	268	847	628	990	640	261	136	125
19	91	475	198	138	259	673	599	1,020	630	249	136	123
20	92	1,740	188	277	246	655	547	1,040	615	236	136	120
21	94	639	185	2,210	237	584	459	1,060	595	229	136	118
22	94	524	175	1,240	231	551	429	1,090	580	222	136	117
23	91	278	169	587	228	641	535	1,090	570	212	133	117
24	89	208	166	745	226	574	592	1,060	560	205	133	117
25	88	177	163	512	274	491	584	1,020	550	198	133	120
26	88	161	160	513	244	433	549	1,000	535	190	138	122
27	88	152	155	679	227	395	800	970	520	183	136	119
28	88	429	153	1,130	222	385	590	940	505	182	133	117
29	86	1,150	152	3,090	-----	371	500	905	495	180	130	116
30	86	526	149	2,450	-----	351	465	895	535	176	128	116
31	86	-----	145	2,830	-----	363	-----	865	-----	173	127	-----
TOTAL	2,746	9,157	13,835	18,925	10,274	15,611	15,345	25,120	19,830	9,114	4,474	3,640
MEAN	88.6	305	446	610	367	504	512	810	661	294	144	121
MAX	94	1,740	2,400	3,090	1,250	1,810	1,030	1,100	850	526	168	128
MIN	86	86	145	136	222	198	330	440	495	173	127	116
AC-FT	5,450	18,160	27,440	37,540	20,380	30,960	30,440	49,820	39,330	18,080	8,870	7,220

CAL YR 1966: TOTAL 90,799

MEAN 249

MAX 2,400

MIN 86

AC-FT 180,100

WAT YR 1967: TOTAL 148,071

MEAN 406

MAX 3,090

MIN 86

AC-FT 293,700

Peak discharge (base, 2,400 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-20	0115	7.07	3,240	1-21	2215	6.89	3,030
12-02	2000	9.49	6,780	1-29	0515	8.05	4,550
12-05	0100	6.60	2,740	1-31	0645	8.52	5,230

Note.--No gage-height record Apr. 27 to June 29.

11-3820. THOMES CREEK AT PASKENTA, CALIF.

LOCATION (revised).--Lat 39°52'57", long 122°33'03", in SW¼NW¼ sec.4, T.23 N., R.6 W., on left bank 0.25 mile upstream from Digger Creek and 0.3 mile upstream from highway bridge at Paskenta.

DRAINAGE AREA.--194 sq mi.

RECORDS AVAILABLE.--October 1920 to September 1967. Monthly discharge only for some periods, published in WSP 1315-A. Published as Thomas Creek at Paskenta prior to 1943.

GAGE.--Graphic water-stage recorder. Datum of gage is 731.1 ft above mean sea level. Prior to Oct. 1, 1930, staff gage at site 0.3 mile downstream at different datum. Oct. 1, 1930, to Dec. 28, 1938, water-stage recorder at site 1,300 ft upstream and Dec. 29, 1938, to June 20, 1942, at site 1,000 ft upstream at different datum. June 21, 1942, to Sept. 30, 1959, at datum 1.75 ft higher.

AVERAGE DISCHARGE.--47 years, 272 cfs (196,900 acre-ft per year); median of yearly mean discharges, 215 cfs (156,000 acre-ft per year).

EXTREMES.--Maximum discharge during year, 8,480 cfs Jan. 29 (gage height, 9.56 ft); minimum daily, 3.3 cfs Oct. 10-14.

1920-67: Maximum discharge, 37,800 cfs Dec. 22, 1964 (gage height, 15.32 ft, in gage well, 16.4 ft, from floodmarks), from rating curve extended above 14,000 cfs on basis of slope-area measurement of maximum flow; no flow at times in many years.

REMARKS.--Records fair. No storage or large diversions above station. Records of chemical analyses, water temperatures, and suspended-sediment loads for the water year 1967 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.7	4.2	1,200	178	1,400	232	322	340	428	116	20	11
2	4.7	4.7	1,400	170	1,060	230	307	364	1,160	106	20	10
3	4.7	4.2	900	158	928	230	322	422	556	100	20	10
4	4.2	4.2	1,820	150	904	222	316	540	452	93	20	10
5	4.2	4.7	2,820	145	928	212	316	610	564	86	20	10
6	4.7	12	706	130	880	209	352	630	650	82	19	10
7	4.2	24	512	122	880	202	410	1,040	540	78	20	9.4
8	3.7	14	465	108	840	202	360	1,620	488	73	20	9.4
9	3.7	11	465	106	780	210	368	1,490	482	70	20	9.4
10	3.3	9.8	676	102	820	240	410	1,130	434	66	19	8.8
11	3.3	10	640	101	730	252	392	850	434	62	19	8.3
12	3.3	44	832	107	790	250	360	770	428	59	18	7.8
13	3.3	152	984	114	780	235	364	770	364	56	18	7.2
14	3.3	308	952	140	640	220	364	850	334	52	17	6.6
15	3.7	410	724	162	532	232	352	1,160	331	50	17	6.6
16	3.7	853	694	170	470	991	331	1,400	328	48	16	6.1
17	4.2	320	652	170	422	730	348	1,480	328	47	16	6.6
18	3.7	209	634	165	386	556	334	1,320	319	44	15	8.3
19	4.2	455	616	160	356	508	422	1,170	319	43	14	8.3
20	3.7	1,520	592	726	325	548	344	1,220	295	42	14	8.8
21	4.2	612	544	4,080	298	670	410	1,250	275	38	14	9.4
22	4.2	382	490	1,090	275	690	410	1,220	235	36	14	9.4
23	3.7	295	440	458	262	790	434	1,140	192	35	12	9.4
24	3.7	246	386	730	255	640	416	1,000	185	32	11	9.4
25	4.2	223	342	446	252	540	404	790	174	30	12	9.4
26	4.2	205	306	1,210	250	476	386	740	172	28	15	9.4
27	4.2	201	272	1,340	245	434	380	710	164	26	16	8.3
28	4.2	481	247	2,930	238	416	368	670	140	25	15	7.8
29	4.7	970	237	5,700	- - - - -	386	352	572	136	24	14	7.8
30	4.7	620	228	2,640	- - - - -	380	344	488	130	22	14	7.2
31	4.2	- - - - -	198	2,160	- - - - -	352	- - - - -	434	- - - - -	22	12	- - - - -
Total	124.7	8,608.8	21,974	26,168	16,926	12,484	10,998	28,190	11,037	1,691	511	260.1
Mean	4.02	287	709	844	604	403	367	909	368	54.5	16.5	8.67
Max	4.7	1,520	2,820	5,700	1,400	991	434	1,620	1,160	116	20	11
Min	3.3	4.2	198	101	238	202	307	340	130	22	11	6.1
Ac-ft	247	17,080	43,580	51,900	33,570	24,760	21,910	55,910	21,990	3,350	1,010	516

Cal yr 1966: Total 113,102.2 Mean 310 Max 2,840 Min 2.0 Ac-ft 224,300
 Wtr yr 1967: Total 138,972.6 Mean 381 Max 5,700 Min 3.3 Ac-ft 275,600

Peak discharge (base, 1,800 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-20	0500	6.62	1,980	1-26	0900	6.64	2,010
12-02	1600	6.92	2,390	1-29	0700	9.56	8,480
12-04	2400	8.51	5,580	5-09	0100	6.63	2,000
1-21	0900	8.64	5,900				

SACRAMENTO RIVER BASIN

11-3825.5. DEER CREEK BELOW SLATE CREEK, NEAR DEER CREEK MEADOWS, CALIF.

LOCATION.--Lat 40°14'00", long 121°27'50", in NE 1/4 sec.1, T.27 N., R.4 E., on right bank 0.4 mile downstream from Slate Creek, 3.2 miles southwest of Deer Creek Meadows, and 15 miles southwest of Chester.

DRAINAGE AREA.--69.4 sq mi.

RECORDS AVAILABLE.--August 1961 to September 1967.

GAGE.--Digital water-stage recorder. Altitude of gage is 4,300 ft (from topographic map). Prior to Oct. 13, 1966, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--6 years, 129 cfs (93,390 acre-ft per year).

EXTREMES.--Maximum discharge during year, 1,240 cfs Jan. 29 (gage height, 5.44 ft); minimum daily, 43 cfs Nov. 1, 2, 4, 5.
1961-67: Maximum discharge, 7,900 cfs Dec. 22, 1964 (gage heights, 11.06 ft, in gage well, 11.95 ft, from floodmarks), from rating curve extended above 1,500 cfs on basis of slope-area measurement at gage height 9.06 ft; minimum, 37 cfs Nov. 17, 1961, Sept. 17, 1962.

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

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	46	43	245	62	327	102	156	119	365	136	79	63
2	46	43	193	61	267	100	151	140	316	131	79	63
3	46	44	166	60	232	98	154	156	292	126	78	63
4	46	43	164	60	206	96	148	167	297	123	77	63
5	46	43	288	60	190	94	142	183	294	120	76	63
6	46	60	184	57	178	92	142	216	277	117	76	63
7	46	52	144	57	167	90	141	294	269	115	75	63
8	46	48	123	57	158	90	146	402	263	112	74	62
9	46	46	112	57	153	92	153	454	274	110	74	62
10	46	46	107	57	156	110	149	434	259	106	74	62
11	46	51	103	57	153	170	140	331	259	105	73	62
12	46	85	101	57	161	165	139	295	264	102	72	61
13	46	55	124	57	169	155	149	302	250	100	72	61
14	46	53	133	57	160	150	148	345	232	98	71	61
15	46	106	115	58	147	170	139	427	224	97	70	61
16	46	191	106	57	141	400	133	527	219	101	70	60
17	46	65	98	56	137	350	131	600	216	100	69	62
18	46	56	92	55	136	310	130	652	218	95	68	63
19	46	210	88	55	130	260	128	668	226	93	68	61
20	46	366	86	56	122	250	121	688	213	92	67	60
21	45	144	82	240	118	250	118	722	202	91	68	60
22	45	99	78	185	117	249	116	753	191	90	67	60
23	45	85	76	135	117	335	114	766	182	88	66	60
24	45	73	74	120	116	265	119	742	174	87	67	59
25	45	67	71	110	115	233	125	654	167	86	67	59
26	44	66	69	105	109	211	117	590	161	85	68	58
27	45	64	65	120	106	204	122	548	155	84	66	58
28	45	101	64	303	104	201	115	505	150	84	65	58
29	44	212	64	927	-----	185	111	467	145	83	65	58
30	44	135	64	568	-----	172	111	419	141	82	64	59
31	45	-----	63	407	-----	166	-----	376	-----	81	64	-----
TOTAL	1,412	2,752	3,542	4,373	4,392	5,815	4,008	13,942	6,895	3,120	2,189	1,828
MEAN	45.5	91.7	114	141	157	188	134	450	230	101	70.6	60.9
MAX	46	366	288	927	327	400	156	766	365	136	79	63
MIN	44	43	63	55	104	90	111	119	141	81	64	58
AC-FT	2,800	5,460	7,030	8,670	8,710	11,530	7,950	27,650	13,680	6,150	4,340	3,630

CAL YR 1966: TOTAL 32,676
WAT YR 1967: TOTAL 54,268

MEAN 89.5
MEAN 149

MAX 462
MAX 927

MIN 42
MIN 43

AC-FT 64,810
AC-FT 107,600

Peak discharge (base, 300 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-16	0400	3.84	366	1-29	0900	5.44	1,240
11-20	0315	4.38	610	3-16	1400	4.11	475
12-01	1545	3.90	390	3-23	0615	3.86	374
12-05	0545	3.87	378	5-23	1900	4.88	878
1-21	1800	-----	410				

Note.--No gage-height record Feb. 27 to Mar. 21.

11-3835. DEER CREEK NEAR VINA, CALIF.

LOCATION.--Lat 40°00'50", long 121°56'50", in NW¼NE¼ sec.23, T.25 N., R.1 W., on left bank 0.5 mile upstream from concrete diversion dam and 7.9 miles northeast of Vina.

DRAINAGE AREA.--208 sq mi.

RECORDS AVAILABLE.--October 1911 to December 1915, March 1920 to December 1937, January 1939 to September 1967. Monthly discharge only for some periods, published in WSP 1315-A.

GAGE.--Graphic water-stage recorder. Datum of gage is 479.5 ft above mean sea level (river-profile survey). Prior to Oct. 9, 1928, staff gage at site 0.8 mile downstream at different datum. Oct. 9, 1928, to Jan. 19, 1939, graphic water-stage recorder at present site at datum 2.64 ft higher. Jan. 19, 1939, to July 14, 1965, graphic water-stage recorder at present site and datum. July 15, 1965, to Apr. 27, 1967, digital water-stage recorder at present site and datum.

AVERAGE DISCHARGE.--49 years, 306 cfs (221,500 acre-ft per year).

EXTREMES.--Maximum discharge during year, 6,620 cfs Dec. 2 (gage height, 9.44 ft); minimum daily, 83 cfs Oct. 1, Oct. 29 to Nov. 2.

1911-15, 1920-37, 1939-67: Maximum discharge, 23,800 cfs Dec. 10, 1937 (gage height, 19.2 ft, present datum, from floodmarks), from rating curve extended above 9,200 cfs on basis of velocity-area studies; minimum, 43 cfs Dec. 13, 1932.

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

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	83	83	840	142	2,020	232	526	514	682	235	135	114
2	85	83	2,600	140	1,320	225	481	514	590	225	134	113
3	86	84	1,900	136	1,000	222	493	536	550	216	135	113
4	85	84	1,350	135	797	216	473	560	565	207	134	113
5	84	84	1,800	135	668	207	555	585	550	202	133	113
6	85	105	1,000	130	573	205	1,390	622	518	196	133	113
7	86	120	790	126	510	207	1,110	740	505	189	133	113
8	86	95	560	126	462	209	847	1,010	505	185	131	113
9	85	91	436	124	426	218	743	1,180	514	180	130	113
10	84	89	408	123	409	265	747	1,180	493	174	130	113
11	85	91	348	123	388	1,190	774	956	497	170	130	113
12	86	122	312	123	378	827	651	812	501	166	128	112
13	86	125	330	121	392	650	607	734	469	163	127	111
14	86	102	384	121	381	505	613	752	434	159	126	111
15	86	161	330	119	351	501	574	886	420	157	126	111
16	86	698	298	119	333	2,680	528	1,110	412	157	125	111
17	85	197	271	118	318	2,120	896	1,240	409	163	123	112
18	84	131	250	116	303	1,380	860	1,310	402	155	122	116
19	84	645	234	116	291	1,130	805	1,340	426	151	121	114
20	85	2,200	220	660	270	1,050	716	1,350	398	149	120	111
21	85	900	210	3,250	258	970	643	1,380	378	149	120	110
22	86	600	197	1,850	250	935	592	1,420	357	147	120	110
23	86	450	191	914	245	1,110	623	1,450	339	144	119	111
24	85	380	185	1,030	248	1,010	646	1,380	321	143	117	110
25	84	250	175	694	303	860	718	1,220	303	141	120	110
26	84	195	169	628	260	735	686	1,110	291	141	123	109
27	84	175	160	776	242	648	949	1,040	279	140	119	108
28	84	450	152	1,380	238	616	758	942	265	140	117	108
29	83	1,310	152	3,900		557	644	879	255	141	115	109
30	83	620	149	3,010		530	570	824	245	140	115	109
31	83		145	3,440		547		728		138	114	
TOTAL	2,629	10,720	16,546	23,925	13,634	22,957	21,218	30,304	12,873	5,163	3,875	3,347
MEAN	84.8	357	534	772	487	741	707	978	429	167	125	112
MAX	86	2,200	2,600	3,900	2,020	2,680	1,390	1,450	682	235	135	116
MIN	83	83	145	116	238	205	473	514	245	138	114	108
AC-FT	5,210	21,260	32,820	47,450	27,040	45,530	42,090	60,110	25,530	10,240	7,690	6,640

CAL. YR 1966: TOTAL 93,060 MEAN 255 MAX 2,600 MIN 82 AC-FT 184,600
 NAT YR 1967: TOTAL 167,191 MEAN 458 MAX 3,900 MIN 83 AC-FT 331,600

Peak discharge (base, 2,500 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-20	0345	6.96	3,240	1-29	0445	8.80	5,620
12-02	2000	9.44	6,620	1-31	0500	8.34	4,960
1-21	0800	7.92	4,390	3-16	1600	7.01	3,290

Note.--No gage-height record Nov. 20 to Dec. 7.

SACRAMENTO RIVER BASIN

11-3840. BIG CHICO CREEK NEAR CHICO, CALIF.

LOCATION.--Lat 39°46'35", long 121°45'10", in Arroyo Chico Grant, on right bank 1.8 miles upstream from golf clubhouse in Bidwell Park, 2.6 miles upstream from Lindo Channel, and 7 miles northeast of Chico.

DRAINAGE AREA.--72.2 sq mi.

RECORDS AVAILABLE.--May 1930 to September 1967. Prior to October 1952, published as Chico Creek near Chico.

GAGE.--Digital water-stage recorder. Altitude of gage is 300 ft (from topographic map). Prior to Oct. 1, 1955, graphic water-stage recorder at site 0.6 mile downstream at different datum. Oct. 1, 1955, to Sept. 30, 1962, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--37 years, 141 cfs (102,100 acre-ft per year); median of yearly mean discharges, 115 cfs (83,300 acre-ft per year).

EXTREMES.--Maximum discharge during year, 5,730 cfs Jan. 21 (gage height, 11.50 ft); minimum daily, 21 cfs Oct. 1, 4-27, 30.
1930-67: Maximum discharge, 9,580 cfs Jan. 5, 1965 (gage height, 15.36 ft); minimum, 10 cfs Dec. 11, 1932, Aug. 15, 1939, Sept. 18, 1947.

REMARKS.--Records good. No storage or large diversion above station. Records of chemical analyses for the water year 1967 are published in Part 2 of this report.

REVISIONS (water year).--1965 report: 1964 (M).

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	21	22	404	51	1,630	89	299	338	126	44	28	24
2	22	22	1,300	49	920	86	282	318	118	43	29	23
3	22	22	1,100	48	595	84	286	308	107	42	29	23
4	21	22	1,090	47	441	81	297	305	98	41	28	24
5	21	22	2,450	47	360	77	353	308	97	41	28	24
6	21	34	845	46	307	74	984	298	95	41	28	23
7	21	49	460	46	268	72	926	306	90	40	28	23
8	21	27	319	46	239	70	632	340	86	39	28	23
9	21	24	242	46	213	69	509	368	84	38	27	23
10	21	24	225	46	192	78	498	401	80	38	27	23
11	21	25	184	46	175	462	502	367	75	37	27	24
12	21	44	160	46	163	382	440	344	77	37	27	23
13	21	37	152	47	155	325	406	300	76	36	27	23
14	21	32	152	45	150	263	399	271	72	36	26	23
15	21	96	136	47	138	269	382	263	69	35	26	23
16	21	328	123	45	132	2,330	349	270	67	35	26	23
17	21	80	111	46	125	1,630	423	276	64	35	26	24
18	21	49	101	47	119	947	476	268	60	34	26	26
19	21	215	94	47	114	684	493	257	61	34	25	25
20	21	850	88	287	107	585	472	242	59	33	30	24
21	21	421	81	4,130	100	528	434	229	57	33	25	23
22	21	418	77	2,240	96	472	395	214	55	33	25	23
23	21	196	71	878	93	578	380	200	54	32	25	24
24	21	120	68	675	94	533	395	188	53	32	25	24
25	21	85	65	418	127	452	407	172	51	32	25	24
26	21	67	62	386	107	388	419	159	49	31	27	23
27	21	57	59	447	99	342	547	146	48	31	26	23
28	22	77	58	1,240	93	316	514	137	48	31	24	23
29	22	498	56	3,260	-----	288	440	129	45	31	24	23
30	21	278	54	2,340	-----	292	377	121	44	31	24	24
31	22	-----	52	3,030	-----	322	-----	114	-----	29	24	-----
TOTAL	656	4,241	10,439	20,219	7,352	13,168	13,716	7,957	2,165	1,105	820	705
MEAN	21.2	141	337	652	263	425	457	257	72.2	35.6	26.5	23.5
MAX	22	850	2,450	4,130	1,630	2,330	984	401	126	44	30	26
MIN	21	22	52	45	93	69	282	114	44	29	24	23
AC-FT	1,300	8,410	20,710	40,100	14,580	26,120	27,210	15,780	4,290	2,190	1,630	1,400

CAL YR 1966: TOTAL 40,107
WAT YR 1967: TOTAL 82,543

MEAN 110
MEAN 226

MAX 2,450
MAX 4,130

MIN 18
MIN 21

AC-FT 79,550
AC-FT 163,700

Peak discharge (base, 1,600 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-02	2030	8.57	3,040	1-29	0600	10.09	4,480
12-05	0230	10.03	4,250	3-16	1500	8.17	3,060
1-21	1615	11.50	5,730				

SACRAMENTO RIVER BASIN

817

11-3843.5. MUD CREEK NEAR CHICO, CALIF.

LOCATION.--Lat 39°47'02", long 121°53'06", in SW¼SE¼ sec.5, T.22 N., R.1 E., on left bank 0.1 mile upstream from bridge on State Highway 99E and 5 miles northwest of Chico.

DRAINAGE AREA.--47.4 sq mi.

RECORDS AVAILABLE.--October 1965 to September 1967.

GAGE.--Digital water-stage recorder. Altitude of gage is 170 ft (from topographic map).

EXTREMES.--Maximum discharge during year, 3,800 cfs Jan. 21 (gage height, 9.65 ft); no flow for several months. 1965-67: Maximum discharge, 3,800 cfs Jan. 21, 1967 (gage height, 9.65 ft); no flow for several months in each year.

Flood of Dec. 22, 1964, reached a stage of 13.23 ft (revised) discharge, 9,880 cfs (revised); maximum stage recorded since reconstruction of the channel, 13.55 ft Jan. 15, 1965 (backwater from debris).

REMARKS.--No storage or diversion above station. During periods of flood flows on Big Chico Creek, flood waters are diverted at Mud Creek diversion dam in sec.18, T.22 N., R.2 E., to Lindo channel and Mud Creek. The majority is diverted to Mud Creek.

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

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	182	3.7	555	14	101	69	13			
2		0	929	3.5	241	13	66	59	12			
3		0	326	3.3	165	13	60	51	10			
4		0	698	3.5	118	12	52	47	8.2			
5		0	1010	3.3	87	10	87	42	8.2			
6		0	296	2.9	70	9.3	768	38	8.2			
7		0	88	2.7	60	9.3	353	35	7.6			
8		0	50	2.7	48	8.8	168	33	6.6			
9		0	33	2.5	42	8.5	118	34	6.3			
10		0	51	2.5	37	8.8	120	37	6.0			
11		0	33	2.5	34	60	180	34	5.6			
12		0	24	2.3	30	164	111	37	6.0			
13		0	29	2.3	28	96	86	30	5.6			
14		0	31	2.1	26	61	73	27	4.8			
15		3.1	20	2.0	24	52	62	25	4.5			
16		33	16	2.0	22	437	51	24	3.9			
17		8.2	13	2.0	21	162	144	22	3.4			
18		3.9	11	2.0	20	110	152	20	3.4			
19		629	9.9	2.0	19	99	332	20	3.2			
20		633	8.8	525	18	93	213	18	5.0			
21		75	8.2	2330	16	81	192	17	2.8			
22		53	7.1	1140	15	60	160	16	2.4			
23		26	7.8	152	15	57	166	14	2.2			
24		17	8.2	462	16	48	202	13	2.4			
25		12	6.5	215	28	39	128	13	1.8			
26		10	6.0	183	19	36	114	12	1.4			
27		8.8	5.2	403	16	33	229	11	1.2			
28		184	4.6	774	14	34	136	11	1.4			
29		385	4.6	1380	-----	33	108	11	.60			
30		63	4.3	1460	-----	87	86	10	0			
31		-----	3.9	1290	-----	202	-----	10	-----			-----
Total	0	2144.0	3925.1	10363.8	1804	2150.7	4818	839	145.70	0	0	0
Mean	0	71.5	127	334	64.4	69.4	161	27.1	4.86	0	0	0
Max	0	633	1010	2330	555	437	768	69	13	0	0	0
Min	0	0	3.9	2.0	14	8.5	51	10	0	0	0	0
Ac-ft	0	4250	7790	20560	3580	4270	9560	1660	289	0	0	0
Cal yr 1966: Total		10637.6	Mean	29.1	Max	1010	Min	0	Ac-ft	21100		
Wtr yr 1967: Total		26190.3	Mean	71.8	Max	2330	Min	0	Ac-ft	51950		

11-3846. LITTLE STONY CREEK ABOVE EAST PARK RESERVOIR, NEAR LODOGA, CALIF.

LOCATION.--Lat 39°17'48", long 122°32'22", in SE¼NW¼ sec.28, T.17 N., R.6 W., on left bank 1.1 miles upstream from country bridge on Lodoga-Stony ford road, 1.4 miles downstream from Frenzel Creek, and 2.8 miles south-west of Lodoga.

DRAINAGE AREA.--45.6 sq mi.

RECORDS AVAILABLE.--September 1966 to September 1967.

GAGE.--Digital water-stage recorder. Altitude of gage is 1,300 ft (from topographic map).

EXTREMES.--Maximum discharge during year, 3,420 cfs Jan. 21 (gage height, 9.15 ft), from rating curve extended above 550 cfs; minimum daily, 0.70 cfs Oct. 1, 2.
1966-67: Maximum discharge, 3,420 cfs Jan. 21, 1967 (gage height, 9.15 ft), from rating curve extended above 550 cfs; minimum daily, 0.60 cfs Sept. 29, 30, 1966.

REMARKS.--Records good. No known storage or diversions above station. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	.70	1.1	53	27	526	36	74	103	47	15	4.8	1.6
2	.70	1.2	423	27	370	35	70	96	138	14	4.5	1.6
3	.80	1.2	219	26	267	34	67	96	87	13	4.2	1.4
4	.80	1.2	699	26	208	33	66	95	62	13	3.9	1.5
5	.80	1.2	768	25	172	32	66	96	67	13	3.8	1.6
6	.80	2.1	347	25	148	30	93	94	59	12	3.7	1.6
7	.80	2.5	202	24	130	29	91	100	54	12	3.7	1.5
8	.80	2.0	136	24	112	28	82	110	50	12	3.6	1.5
9	.80	1.7	110	24	101	27	79	115	47	12	3.4	1.6
10	.80	1.6	118	23	93	49	89	112	44	11	3.3	1.7
11	.80	1.6	95	23	84	76	86	101	41	10	3.2	1.6
12	.80	3.0	85	23	79	81	79	93	41	9.9	3.0	1.5
13	.80	2.7	83	23	74	73	76	86	38	9.9	2.8	1.4
14	.80	2.7	73	22	70	61	73	83	35	9.5	2.8	1.4
15	.90	9.7	64	22	66	118	72	84	33	9.2	2.6	1.3
16	.90	20	57	22	63	480	67	87	31	9.1	2.5	1.2
17	.90	4.2	53	21	60	234	96	90	29	8.9	2.4	1.3
18	.90	2.7	48	21	56	176	100	91	28	8.6	2.3	2.2
19	1.0	126	45	21	54	140	91	88	27	8.5	2.1	1.7
20	1.0	206	42	346	50	150	88	83	26	8.3	2.1	1.4
21	1.0	119	40	2,060	47	138	126	78	25	8.1	2.1	1.2
22	1.0	78	38	660	47	126	138	73	23	7.7	2.2	1.2
23	1.1	40	36	320	45	134	191	67	22	7.4	2.0	1.3
24	1.1	31	35	367	45	116	234	62	21	7.2	2.0	1.3
25	1.1	26	33	275	44	107	217	58	20	6.8	1.9	1.2
26	1.1	24	32	628	40	98	187	54	19	6.5	2.2	1.2
27	1.1	23	31	650	39	91	163	50	18	6.2	2.4	1.0
28	1.1	57	30	875	37	86	144	47	17	6.0	2.0	.97
29	1.1	84	30	1,320	79	79	126	45	16	5.7	1.8	1.1
30	1.1	48	29	922	88	88	112	42	15	5.4	1.6	1.2
31	1.1		28	850		82		40		5.0	1.6	
TOTAL	28.50	924.4	4,004	9,722	3,127	3,067	3,243	2,519	1,180	290.9	86.7	42.27
MEAN	.92	30.8	132	314	112	98.9	108	81.3	39.3	9.38	2.80	1.41
MAX	1.1	206	768	2,060	526	480	234	115	138	15	4.8	2.2
MIN	.70	1.1	28	21	37	27	66	40	15	5.0	1.6	.97
AC-FT	57	1,830	8,100	19,280	6,200	6,080	6,430	5,000	2,340	577	172	84

CAL YR 1966: TOTAL - MEAN - MAX - MIN - AC-FT -
WAT YR 1967: TOTAL 28,314.77 MEAN 77.6 MAX 2,060 MIN .70 AC-FT 56,160

Peak discharge (base, 370 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-19	2100	6.77	847	1-21	1015	9.15	3,420
12-02	1600	7.52	1,420	1-29	0530	7.89	1,970
12-04	2245	7.88	1,760	3-16	0130	5.97	686

SACRAMENTO RIVER BASIN

819

11-3865. GRINDSTONE CREEK NEAR ELK CREEK, CALIF.

LOCATION.--Lat 39°40'46", long 122°31'43", in SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec.15, T.21 N., R.6 W., on right bank 600 ft upstream from highway bridge, 4.5 miles north of Elk Creek.

DRAINAGE AREA.--172 sq mi.

RECORDS AVAILABLE.--October 1935 to November 1937, October 1939 to April 1940, October 1965 to September 1967. Monthly and yearly discharge only for some periods, published in WSP 1315-A.

GAGE.--Graphic water-stage recorder. Altitude of gage is 640 ft (from topographic map). October 1935 to November 1937, at site 0.2 mile downstream at different datum. October 1939 to April 1940, at site 600 ft downstream at different datum.

EXTREMES.--Maximum discharge during year, 7,180 cfs Jan. 29 (gage height, 13.45 ft), from rating curve extended above 2,200 cfs; minimum daily, 0.70 cfs Oct. 20-23, Nov. 4, 5.

1935-37, 1939-40, 1965-67: Maximum discharge, 13,000 cfs Feb. 27, 1940 (gage height, 7.55 ft, site and datum then in use), from rating curve extended above 2,400 cfs on basis of slope-area measurement of maximum flow; no flow at times in many years.

Flood of Dec. 22, 1964, reached a stage of 9.38 ft, from floodmarks, at site 600 ft downstream at different datum (discharge, 22,200 cfs by slope-area measurement).

REMARKS.--No known diversions above station.

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

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.0	1.0	181	55	827	111	193	269	170	39	10	3.4
2	1.0	1.0	583	52	583	102	176	282	645	36	9.8	3.4
3	1.0	1.0	467	46	449	102	198	311	415	33	9.1	3.4
4	1.0	.70	744	46	398	94	204	357	242	31	8.5	2.0
5	1.5	.70	1630	46	357	86	198	389	262	33	8.4	2.0
6	1.5	1.5	458	43	341	79	255	373	297	40	8.3	2.6
7	1.5	7.0	275	41	319	75	415	458	235	38	8.2	2.6
8	1.5	1.1	210	41	289	72	326	562	210	37	8.0	2.6
9	1.5	7.0	165	41	268	72	326	572	193	35	7.9	2.6
10	1.0	5.0	304	41	248	94	334	486	181	34	7.8	2.0
11	1.0	3.4	255	43	229	139	341	389	176	32	7.7	2.0
12	1.0	7.0	268	49	229	125	297	334	204	31	7.6	2.0
13	1.5	28	304	55	229	107	275	304	204	29	7.5	1.5
14	1.5	22	275	59	204	90	268	304	159	27	7.3	1.5
15	1.5	90	216	65	193	94	255	349	139	26	7.2	1.5
16	1.5	165	181	68	181	677	229	415	129	24	7.1	1.5
17	1.0	82	165	75	176	495	242	441	115	23	7.0	2.0
18	1.0	41	144	79	176	415	235	432	115	21	7.0	2.6
19	1.0	55	129	82	170	373	341	381	115	20	6.0	2.6
20	.70	486	125	603	159	389	275	357	102	19	5.0	2.6
21	.70	319	115	3880	149	423	357	357	86	17	5.0	2.6
22	.70	187	107	1100	139	393	326	326	72	17	4.2	4.2
23	.70	90	102	583	139	432	373	311	61	16	4.2	4.2
24	.70	52	94	572	134	381	381	269	58	15	4.2	5.0
25	.70	41	90	304	134	334	398	235	55	15	3.4	5.0
26	.70	33	82	1110	125	304	365	204	52	14	4.2	6.0
27	.70	31	75	1170	115	268	341	187	52	14	7.0	5.0
28	.70	90	68	1840	115	242	319	170	49	13	5.0	5.0
29	1.0	193	68	4200	- - - -	223	289	154	38	12	3.4	7.0
30	1.0	125	65	2060	- - - -	223	275	139	36	12	3.4	5.0
31	1.0	- - - -	61	1410	- - - -	216	- - - -	129	- - - -	11	3.4	- - - -
Total	32.80	2181.30	8006	19858	7075	7235	8807	10244	4867	762	202.8	95.4
Mean	1.06	72.7	258	641	253	233	294	330	162	24.6	6.5	3.38
Max	1.5	486	1630	4200	827	677	415	572	645	40	10	7.0
Min	0.70	0.70	61	41	115	72	176	129	36	11	3.4	1.5
Ac-ft	65	4330	15880	39390	14030	14350	17470	20320	9650	1510	402	189

Cal yr 1966: Total 50,619.5 Mean 139 Max 3,000 Min 0.40 Ac-ft 100,400
 Wtr yr 1967: Total 69,366.3 Mean 193 Max 4,200 Min 0.70 Ac-ft 137,600

Note.--No gage-height record July 6 to Aug. 16.

SACRAMENTO RIVER BASIN

11-3870. STONY CREEK NEAR FRUTO, CALIF.

LOCATION.--Lat 39°40'16", long 122°31'08", in SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec.15, T.21 N., R.6 W., on right bank 0.3 mile downstream from Grindstone Creek and 6.5 miles northwest of Fruto.

DRAINAGE AREA.--598 sq mi.

RECORDS AVAILABLE.--January 1901 to October 1912, October 1960 to September 1967.

GAGE.--Graphic water-stage recorder. Altitude of gage is 600 ft (from topographic map). Prior to Oct. 6, 1912, staff gage at site 1.0 mile downstream at different datum.

AVERAGE DISCHARGE.--18 years, 667 cfs (482,900 acre-ft per year), unadjusted.

EXTREMES.--Maximum discharge during year, 15,600 cfs Jan. 29 (gage height, 11.83 ft); minimum daily, 3.2 cfs Nov. 2.

1901-12, 1960-67: Maximum discharge, 40,200 cfs Dec. 23, 1964 (gage heights, 15.94 ft, in gage well, 16.1 ft, from floodmarks); no flow July 5-13, Oct. 25, 26, 1901.

REMARKS.--Records fair. Many diversions above station for irrigation. Flow regulated by East Park Reservoir beginning in 1910 (usable capacity, 50,600 acre-ft) and by Stony Gorge Reservoir beginning in 1928 (usable capacity, 50,100 acre-ft).

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	181	3.9	308	98	4,960	360	768	918	510	294	412	466
2	187	3.2	1,840	107	3,350	360	560	691	1,650	294	412	434
3	193	52	993	87	2,840	352	629	580	1,520	279	407	425
4	196	132	2,090	80	2,280	348	656	810	1,030	272	407	412
5	211	119	3,520	82	1,940	340	656	984	1,160	264	403	420
6	224	124	1,880	76	1,890	289	750	1,050	1,110	264	398	412
7	205	96	1,700	72	1,740	156	1,210	1,220	966	293	394	412
8	181	9.2	1,190	74	1,530	164	1,060	1,510	744	352	390	398
9	16	6.4	852	72	1,340	170	990	1,800	662	356	377	398
10	9.2	5.4	1,080	72	1,180	211	1,040	1,710	640	356	360	394
11	5.7	5.1	864	70	1,050	247	1,010	1,250	612	403	360	381
12	4.5	13	846	70	984	247	816	1,090	617	407	360	365
13	13	31	894	70	912	253	668	1,060	570	412	360	340
14	37	27	840	70	828	279	690	1,020	550	403	356	308
15	30	98	673	68	768	308	673	1,100	525	403	356	308
16	30	247	490	66	717	3,820	640	1,240	476	398	356	308
17	30	91	286	64	573	3,420	668	1,340	452	420	365	305
18	31	41	275	64	412	1,900	668	1,320	434	438	381	305
19	5.7	143	263	64	471	1,660	786	1,250	412	443	377	301
20	4.5	771	240	990	495	1,580	690	1,220	390	438	377	301
21	4.2	450	181	5,000	495	1,500	1,450	1,190	365	485	329	297
22	4.2	308	164	3,100	495	1,330	1,930	1,180	340	570	390	297
23	3.7	156	156	1,320	480	1,090	1,970	1,080	332	575	390	297
24	3.9	124	140	4,200	416	936	2,140	978	328	570	386	297
25	3.7	107	132	3,070	261	924	1,850	924	316	570	390	294
26	3.7	98	124	4,000	308	864	1,260	834	312	570	394	301
27	3.9	96	117	5,090	336	734	1,220	734	316	545	390	312
28	4.2	206	110	5,630	356	646	1,160	662	312	466	386	312
29	4.2	337	110	10,600	- - - - -	668	1,060	602	297	466	425	305
30	4.5	218	107	9,270	- - - - -	739	966	545	297	466	490	301
31	4.5	- - - - -	102	7,740	- - - - -	942	- - - - -	490	- - - - -	457	490	- - - - -
Total	1,839.3	4,118.2	22,572	61,436	33,407	26,842	30,644	32,382	18,245	12,929	12,068	10,406
Mean	59.3	137	728	1,982	1,193	866	1,021	1,045	608	417	389	347
Max	224	771	3,520	10,600	4,960	3,820	2,140	1,800	1,650	575	490	466
Min	3.7	3.2	102	64	261	156	560	490	297	264	329	294
Ac-ft	3,650	8,170	44,770	121,900	66,260	53,240	60,780	64,230	36,190	25,640	23,940	20,640
Cal yr 1966: Total	178,343.9	Mean	489	Max	5,440	Min	3.2	Ac-ft	353,700			
Wtr yr 1967: Total	266,983.5	Mean	731	Max	10,600	Min	3.2	Ac-ft	529,400			

SACRAMENTO RIVER BASIN

821

11-3878. NORTH FORK STONY CREEK NEAR NEWVILLE, CALIF.

LOCATION.--Lat 39°47'05", long 122°28'30", in SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.6, T.22 N., R.5 W., on right bank 150 ft downstream from Bedford Creek and 2.7 miles east of Newville.

DRAINAGE AREA.--67.1 sq mi.

RECORDS AVAILABLE.--May 1963 to September 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is 531.43 ft above mean sea level.

EXTREMES.--Maximum discharge during year, 3,380 cfs Jan. 26 (gage height, 6.50 ft); no flow for many days.
1963-67: Maximum discharge, 12,500 cfs Jan. 5, 1965 (gage height, 11.48 ft), from rating curve extended above 2,500 cfs on basis of slope-area measurements at gage heights 7.3 and 11.48 ft; no flow at times in each year.
Flood of Apr. 7, 1963, reached a stage of 7.3 ft, from floodmarks (discharge, 4,600 cfs by slope-area measurement).

REMARKS.--Records good. No regulation above station. Probably a few small diversions above the station for irrigation.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	26	9.7	222	18	26	72	24	10	0.50	
2		0	519	9.7	154	18	22	70	347	8.5	.40	
3		0	136	9.1	123	18	26	70	126	8.5	.40	
4		0	739	9.1	102	16	27	70	70	7.9	.40	
5		0	475	9.1	88	14	60	68	75	6.7	.20	
6		0	118	8.5	77	14	116	58	63	6.2	.20	
7		0	72	8.5	70	13	292	54	56	5.7	.20	
8		0	52	7.9	63	12	83	54	44	5.7	.10	
9		0	46	7.9	57	13	65	50	45	5.2	.10	
10		0	111	7.9	52	18	152	45	40	4.3	.10	
11		0	60	7.3	50	50	187	42	39	3.9	.10	
12		0	50	7.3	46	51	86	39	51	3.5	.20	
13		0	56	6.7	44	40	70	32	48	2.8	.10	
14		0	43	6.2	39	27	60	30	36	2.5	0	
15		.10	40	5.7	36	26	56	27	33	1.9	0	
16		5.4	38	5.2	34	189	50	24	28	1.7	0	
17		.30	32	4.7	32	68	99	22	27	1.5	0	
18		.10	28	5.2	30	52	58	20	24	1.3	0	
19		75	26	5.7	26	44	442	18	24	1.3	0	
20		271	22	337	22	44	136	18	24	1.1	0	
21		101	20	793	22	45	289	16	22	1.0	0	
22		62	16	131	22	39	333	15	20	1.0	0	
23		24	16	63	22	34	448	14	20	.80	0	
24		17	16	969	22	27	272	13	20	.70	0	
25		12	14	232	26	26	178	12	18	.60	0	
26		9.6	12	1160	20	26	154	12	16	.50	0	
27		8.4	12	481	13	22	133	13	16	.40	0	
28		39	11	590	13	22	107	13	15	.40	0	
29		38	11	767	-----	20	92	13	14	.40	0	
30		21	11	791	-----	45	80	12	11	.50	0	
31		-----	10	504	-----	36	-----	12	-----	.60	0	-----
Total	0	683.9	2843	6,969.4	1537	1,087	4,204	1,028	1,396	97.10	3.00	0
Mean	0	22.8	91.7	225	54.9	35.1	140	33.2	46.5	3.13	0.10	0
Max	0	271	739	1,160	222	189	448	72	347	10	0.50	0
Min	0	0	10	4.7	18	12	22	12	11	0.40	0	0
Ac-ft	0	1,360	5,640	13,820	3,050	2,160	8,340	2,040	2,770	193	6.0	0

Cal yr 1966: Total 10,901.3 Mean 29.9 Max 1,240 Min 0 Ac-ft 21,620
Wtr yr 1967: Total 19,848.4 Mean 54.4 Max 1,160 Min 0 Ac-ft 39,370

Peak discharge (base, 400 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-20	1500	3.62	581	1-24	1500	5.18	1,840	4-10	1700	3.54	522	6-02	1300	3.36	432
12-02	1500	5.60	2,280	1-26	0930	6.50	3,380	4-17	1300	3.39	446		1400		
12-04	2200	5.80	2,500	1-30	1400	6.00	2,740	4-19	1400	4.20	950				
1-21	0700	5.03	1,690	4-07	0300	3.87	712	4-22	2100	4.50	1,200				

SACRAMENTO RIVER BASIN

11-3879.9. SOUTH DIVERSION CANAL NEAR ORLAND, CALIF.

LOCATION.--lat 39°48'35", long 122°19'45", in NE¼ sec.32, T.23 N., R.4 W., on left bank 0.4 mile downstream from Black Butte Dam and 8.2 miles northwest of Orland.

RECORDS AVAILABLE.--July 1955 to September 1967. Prior to October 1961, published as an adjustment to Stony Creek at Black Butte damsite near Orland.

GAGE.--Graphic water-stage recorder and Parshall flume. Datum of gage is 372.64 ft above mean sea level. Prior to Oct. 23, 1956, at site 0.5 mile upstream at different datum. Oct. 1, 1960, to Sept. 30, 1961, at datum 1.00 ft lower.

AVERAGE DISCHARGE.--12 years, 98.8 cfs (71,530 acre-ft per year).

EXTREMES.--1955-67: Maximum daily discharge, 318 cfs June 18, 1967; no flow at times in each year.

REMARKS.--Records good. Canal diverts from Black Butte Reservoir at right end of Black Butte Dam; water is used for irrigation. Pump diverts water at times above station. Total diverted during the 1967 water year was 846 acre-ft.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	146	65	1.3	2.8	0.90	1.5	4.9	3.8	215	314	228	189
2	151	80	1.5	2.8	.60	1.5	4.9	3.5	151	304	274	208
3	134	90	1.3	2.8	.10	1.5	14	3.2	100	299	312	217
4	110	87	1.3	2.8	1.0	1.5	20	13	56	248	290	224
5	115	67	1.2	2.8	2.1	1.5	20	24	47	232	281	199
6	92	28	1.2	2.8	2.1	1.5	20	24	49	262	281	231
7	114	0	1.3	2.8	1.8	1.5	20	24	52	276	270	239
8	112	3.7	2.0	2.8	1.1	1.1	20	83	61	278	249	226
9	91	5.0	2.8	3.0	1.1	.20	20	116	96	262	228	216
10	129	4.3	2.8	3.0	1.1	.30	20	108	156	268	209	214
11	149	5.4	2.8	3.2	1.1	.30	20	103	201	273	215	212
12	143	4.8	2.8	3.2	1.1	.30	20	121	222	273	249	196
13	141	4.0	2.9	3.2	1.1	.20	10	124	248	273	269	192
14	133	4.2	2.5	3.2	1.3	.20	3.5	123	263	266	282	192
15	144	4.3	2.5	3.2	1.3	8.0	4.3	193	273	290	300	183
16	129	3.8	2.5	3.0	1.3	5.6	4.9	220	292	252	303	174
17	93	3.8	2.5	3.0	1.3	.10	4.9	258	309	247	286	164
18	80	3.8	2.5	3.0	1.3	.10	4.9	269	318	249	299	192
19	68	4.2	2.5	3.2	1.3	.20	4.9	282	266	262	265	202
20	84	4.2	2.5	3.2	1.3	.40	4.9	290	230	284	217	209
21	83	4.0	2.5	3.0	1.3	9.0	4.9	235	202	296	195	223
22	76	4.0	2.5	2.1	1.3	12	4.9	192	156	293	193	189
23	61	4.0	2.5	1.5	1.3	11	4.9	193	234	281	219	184
24	66	4.0	2.5	.60	1.5	11	4.6	216	226	271	230	199
25	89	3.1	2.5	0	1.4	11	4.6	233	292	271	235	202
26	102	4.0	2.5	.20	1.3	11	4.9	255	267	285	262	194
27	93	.20	2.7	.30	1.5	23	4.9	297	259	271	254	166
28	85	.50	2.8	.30	1.5	44	4.9	279	275	257	237	149
29	87	.10	2.8	.10	- - - -	56	4.6	238	278	247	222	144
30	87	.50	2.8	.80	- - - -	31	4.3	224	292	217	216	135
31	73	- - - -	2.8	1.0	- - - -	4.9	- - - -	223	- - - -	230	193	- - - -
Total	3,278	496.90	71.6	59.70	35.40	250.40	293.6	4,970.5	6,106	8,331	7,762	5,869
Mean	106	16.6	2.31	2.25	1.26	8.08	9.79	160	204	269	250	196
Max	151	90	2.9	3.2	2.1	56	20	297	318	314	312	239
Min	61	0.10	1.2	0	0.10	0.10	3.5	3.2	47	217	193	135
Ac-ft	6,500	986	142	138	70	497	582	9,860	12,110	16,520	15,400	11,640
Cal yr 1966: Total	44,666.5		Mean 122		Max 292	Min 0.10	Ac-ft 83,590					
Wtr yr 1967: Total	37,534.1		Mean 103		Max 318	Min 0	Ac-ft 74,450					

LOCATION.--Lat 39°48'50", long 122°20'10", in SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.29, T.23 N., R.4 W., in control tower in right abutment of main dam on Stony Creek, 8 miles northwest of Orland.

1963-67: Maximum contents, 149,700 acre-ft June 8, 9, 1967 (elevation, 471.19 ft); minimum since initial season of operation, 9,420 acre-ft Oct. 27, 1964 (elevation, 413.83 ft).

COOPERATION.--Records furnished by Corps of Engineers.

413.0	8,810	450.0	73,700
415.0	10,300	460.0	105,900
420.0	15,000	470.0	144,600
430.0	28,800	480.0	191,300
440.0	48,100		

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	34,600	24,600	31,400	78,700	68,300	68,300	104,300	128,800	140,300	129,600	97,400	62,800
2	34,400	24,200	35,600	78,900	61,100	68,900	104,300	129,400	142,200	128,300	96,200	61,300
3	34,200	23,800	38,400	79,000	57,200	69,600	105,000	129,600	144,600	127,000	95,200	60,800
4	34,000	23,500	42,500	79,100	55,700	70,300	106,500	130,200	145,900	125,600	94,000	59,800
5	34,000	23,400	50,800	79,300	53,200	71,000	107,600	131,100	147,000	124,400	92,900	58,800
6	34,000	23,600	54,800	79,300	52,200	71,600	109,200	132,100	148,200	123,000	91,700	57,700
7	34,000	23,700	58,100	79,400	52,700	71,800	112,000	133,400	149,100	121,600	90,600	56,600
8	34,000	23,700	60,500	79,500	54,100	72,100	114,100	135,100	149,700	120,400	89,500	55,500
9	34,000	23,600	62,200	79,600	55,600	72,500	116,100	137,000	149,700	119,300	88,400	54,700
10	33,700	23,500	64,400	79,700	57,200	72,800	118,300	138,800	149,500	118,000	87,200	53,800
11	33,300	23,400	66,100	79,800	58,700	73,400	120,100	139,800	149,200	117,000	86,100	52,800
12	32,600	23,300	67,800	79,900	60,100	74,100	120,900	140,300	148,900	116,000	84,900	51,900
13	32,000	23,200	69,700	80,000	61,400	74,800	121,400	140,800	148,400	115,000	83,700	50,900
14	31,500	23,200	71,400	80,000	62,300	75,400	121,800	141,100	147,700	113,900	82,400	49,600
15	31,000	23,300	72,800	80,200	62,800	76,300	122,400	141,300	147,200	112,800	81,200	48,600
16	30,500	23,600	73,900	80,100	63,300	81,300	122,900	141,800	146,300	111,700	80,000	47,400
17	30,000	23,700	74,500	80,200	63,700	86,700	123,300	142,200	145,500	110,700	78,700	46,400
18	29,700	23,700	75,100	80,300	63,700	90,300	124,000	142,800	144,500	109,800	77,400	45,300
19	29,300	24,300	75,600	80,300	63,800	93,400	125,400	143,100	143,500	108,800	76,200	44,100
20	28,800	26,300	76,000	82,000	64,400	95,700	126,200	143,400	142,600	107,700	75,100	42,800
21	28,500	27,500	76,400	92,600	65,000	97,500	128,200	143,800	141,700	106,700	74,000	41,600
22	28,100	28,200	76,700	93,100	65,700	99,000	131,400	144,200	140,700	105,900	72,900	40,400
23	27,900	28,500	77,000	84,000	66,200	100,100	135,100	144,500	139,600	105,100	71,800	39,200
24	27,600	28,600	77,300	80,100	66,800	100,900	139,000	144,500	138,400	104,300	70,700	38,100
25	27,300	28,700	77,500	71,100	67,100	101,600	140,800	144,300	137,100	103,500	69,500	36,900
26	26,900	28,800	77,700	68,100	67,300	102,200	139,800	144,000	136,000	102,800	68,400	35,700
27	26,500	29,000	77,900	65,500	67,600	102,500	137,700	143,400	134,900	101,900	67,300	34,600

Calendar year 1966.....	†	+17,100	Max	118,300	Min	23,200
Water year 1966-67.....	†	-3,400	Max	149,700	Min	23,200

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-feet.

†† Evaporation, in acre-feet.

SACRAMENTO RIVER BASIN

11-3880. STONY CREEK BELOW BLACK BUTTE DAM, NEAR ORLAND, CALIF.

LOCATION.--Lat 39°49'00", long 122°19'25", in SW¼ sec.28, T.23 N., R.4 W., on left bank 200 ft downstream from road bridge, 0.6 mile downstream from Black Butte Dam, and 8.1 miles northwest of Orland.

DRAINAGE AREA.--741 sq mi.

RECORDS AVAILABLE.--July 1955 to September 1967. Prior to October 1962, published as Stony Creek at Black Butte damsite, near Orland.

GAGE.--Digital water-stage recorder and grouted rock control. Datum of gage is 366.02 ft above mean sea level (levels by Corps of Engineers). Prior to Dec. 12, 1960, graphic water-stage recorder at site 0.6 mile upstream at different datum. Dec. 12, 1960, to Nov. 30, 1963, wire-weight gage at bridge 200 ft upstream at datum 4.04 ft higher. Nov. 30, 1963, to Nov. 1, 1966, graphic water-stage recorder at present site and datum.

AVERAGE DISCHARGE.--12 years, 595 cfs (430,800 acre-ft per year), adjusted for diversion to South Diversion Canal since 1956 and for storage and evaporation from Black Butte Reservoir since 1964.

EXTREMES.--Maximum discharge during year, 10,000 cfs Jan. 31 (gage height, 8.86 ft); no flow for several days.

1955-63 (prior to regulation by Black Butte Reservoir): Maximum discharge, 36,300 cfs Feb. 24, 1958 (gage height, 11.82 ft, site and datum then in use), from rating curve extended above 7,500 cfs on basis of slope-area measurement of maximum flow; no flow Dec. 8-10, 31, 1956, Jan. 1-10, 1957, Oct. 19 to Nov. 7, Nov. 13-15, 1962.

1964-67: Maximum discharge, 19,400 cfs Dec. 25, 1965 (gage height, 10.41 ft); no flow at times in each year.

REMARKS.--Records excellent. Many diversions above station for irrigation. Flow regulated by Black Butte Reservoir (see sta. no. 3879.95), East Park Reservoir (usable capacity, 50,600 acre-ft), and Stony Gorge Reservoir (usable capacity, 50,100 acre-ft). Prior to October 1956, figures of daily discharge included water diverted to South Diversion Canal, which diverts 0.6 mile above station. Records of combined monthly discharge do not include a small diversion that bypasses the station at times for irrigation. Records of chemical analyses for the water year 1967 are published in Part 2 of this report.

REVISIONS (water year).--1966 report: 1965.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	146	108	40	29	9,260	202	499	1,660	615	635	621	595
2	135	108	41	29	7,110	99	499	521	592	627	610	604
3	141	105	36	29	4,690	49	171	512	548	622	609	614
4	132	85	37	29	3,040	46	53	509	527	628	625	615
5	105	79	40	29	2,970	44	52	504	529	635	627	622
6	98	63	39	29	2,340	43	51	503	531	629	618	644
7	94	47	36	29	1,380	43	51	503	542	632	611	645
8	87	55	32	29	734	41	51	539	550	632	617	604
9	60	60	31	28	491	36	51	583	572	630	627	580
10	68	55	31	28	400	37	53	591	601	630	634	577
11	91	53	31	28	302	36	278	593	626	630	635	580
12	109	53	31	28	302	15	507	605	635	620	631	591
13	118	56	32	28	309	0	501	603	628	619	634	586
14	111	56	30	28	398	0	499	584	618	624	604	578
15	111	52	31	28	495	0	451	586	622	625	599	570
16	115	52	31	28	495	0	499	603	616	625	612	561
17	117	50	31	28	446	0	499	621	617	614	615	566
18	122	50	31	28	405	0	513	629	620	616	625	588
19	123	54	31	28	405	6.0	523	620	620	628	629	592
20	108	53	30	30	312	262	523	616	614	638	628	602
21	87	53	31	922	216	494	516	603	620	640	621	601
22	80	53	31	3,580	213	497	503	591	622	610	624	600
23	77	55	30	6,140	209	499	503	595	627	607	634	592
24	67	53	30	6,810	202	499	511	608	634	624	622	579
25	69	53	30	7,190	202	499	1,070	628	632	630	601	579
26	76	33	30	7,230	202	499	2,140	635	610	620	592	589
27	78	.10	30	7,480	202	503	2,520	628	600	610	586	594
28	85	0	29	7,490	202	503	2,500	625	615	610	586	589
29	90	7.2	29	7,880	-----	499	2,500	620	620	613	582	571
30	104	43	29	8,990	-----	499	2,500	620	635	622	585	563
31	109	-----	29	9,920	-----	499	-----	610	-----	625	582	-----
TOTAL	3,113	1,644.30	1,000	74,202	37,932	6,449.0	21,587	19,248	18,038	19,350	19,026	17,771
MEAN	100	54.8	32.3	2,394	1,355	208	720	621	601	624	614	592
MAX	146	108	41	9,920	9,260	503	2,520	1,660	635	640	635	645
MIN	60	0	29	28	202	0	51	503	527	607	582	561
AC-FT	6,170	3,260	1,980	147,200	75,240	12,790	42,820	38,180	35,780	38,380	37,740	35,250
Mean †	57.1	175	816	2,368	1,209	809	1,179	991	687	414	341	277
Ac-ft†	3,510	10,430	50,150	145,600	67,170	49,760	70,150	60,940	40,850	25,480	20,950	16,460

CAL YR 1966: TOTAL 123,628.30 MEAN 339 MAX 4,890 MIN 0 AC-FT 245,200 Mean † 506 Ac-ft † 366,000
WAT YR 1967: TOTAL 239,360.30 MEAN 656 MAX 9,920 MIN 0 AC-FT 474,800 Mean † 775 Ac-ft † 561,400

† Adjusted for diversion to South Diversion canal, and change in contents of and evaporation from Black Butte Reservoir.

SACRAMENTO RIVER BASIN

825

11-3885. STONY CREEK NEAR HAMILTON CITY, CALIF.

LOCATION.--Lat 39°43'25", long 122°02'47", in Capay Grant, on right bank 2.3 miles southwest of Hamilton City, 6 miles upstream from mouth, and 8 miles east of Orland.

DRAINAGE AREA.--777 sq mi.

RECORDS AVAILABLE.--October 1940 to September 1967. Records for water year 1941 incomplete, yearly estimate published in WSP 1315-A.

GAGE.--Graphic water-stage recorder. Datum of gage is 151.18 ft above mean sea level (levels by Bureau of Reclamation). Prior to February 1946, at site 3 miles upstream at different datum.

AVERAGE DISCHARGE.--27 years, 422 cfs (305,500 acre-ft per year).

EXTREMES.--Maximum discharge during year, 10,800 cfs Jan. 30 (gage height, 12.24 ft); minimum daily, 1.0 cfs Nov. 1.

1940-67: Maximum discharge, 39,900 cfs Feb. 25, 1958 (gage height, 18.31 ft); no flow at times in most years.

REMARKS.--Records fair. Flow regulated by East Park Reservoir beginning in 1910 (usable capacity, 50,600 acre-ft), by Stony Gorge Reservoir beginning in 1928 (usable capacity, 50,100 acre-ft), and by Black Butte Reservoir beginning in October 1963 (see sta. no. 3879.95). Diversions for irrigation of about 17,200 acres above station in the Bureau of Reclamation Orland project.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	13	1.0	22	14	9,850	161	410	2,400	535	428	480	520
2	11	7.6	47	12	7,940	152	410	600	595	432	480	515
3	22	12	143	12	5,740	90	333	550	565	432	505	525
4	24	19	57	11	3,030	71	116	510	545	423	515	535
5	21	16	150	11	2,900	59	90	510	520	432	510	545
6	18	25	79	11	2,550	54	83	500	510	441	510	525
7	18	25	60	8.9	1,390	52	82	495	500	446	510	525
8	25	22	49	11	338	52	73	505	500	450	515	565
9	27	22	44	11	495	51	63	535	500	446	525	525
10	24	19	41	7.9	423	49	70	515	510	446	525	520
11	16	19	33	8.9	313	51	73	525	490	436	520	515
12	13	13	36	8.4	300	52	334	535	500	455	505	505
13	13	13	36	7.4	290	49	389	540	525	460	495	515
14	19	19	36	4.1	290	52	389	530	520	460	520	510
15	26	20	32	3.4	381	33	349	505	510	455	505	505
16	22	25	30	3.4	393	41	405	485	520	465	505	520
17	22	19	28	5.2	381	39	432	490	515	455	515	515
18	13	18	25	5.6	329	35	441	505	505	441	500	525
19	18	26	26	5.6	322	32	470	515	510	441	500	520
20	22	94	25	12	304	30	475	510	515	446	495	495
21	27	53	24	73	219	293	500	500	465	446	490	505
22	24	44	22	2,440	204	357	490	515	432	450	495	515
23	22	42	22	6,170	195	377	500	495	389	455	490	515
24	19	33	21	7,020	192	381	515	495	397	455	490	515
25	18	33	19	7,570	186	389	692	490	410	450	510	515
26	17	32	13	7,690	167	393	2,100	500	414	455	530	505
27	16	22	13	8,050	164	397	2,500	495	432	450	535	525
28	19	16	17	8,120	164	405	2,500	485	423	460	530	510
29	13	17	16	8,140	- - - -	423	2,450	495	413	460	525	500
30	3.2	11	15	9,570	- - - -	441	2,450	495	428	475	520	490
31	7.2	- - - -	14	10,500	- - - -	418	- - - -	505	- - - -	495	515	- - - -
Total	597.4	752.6	1,210	75,521.9	39,955	5,473	20,194	17,730	14,603	13,945	15,765	15,520
Mean	19.3	25.1	39.0	2,436	1,427	177	673	572	487	450	509	517
Max	27	94	150	10,500	9,850	441	2,500	2,400	595	495	535	565
Min	7.2	1.0	14	3.4	164	30	63	485	389	423	480	490
Ac-ft	1,180	1,490	2,400	149,300	79,250	10,860	40,050	35,170	28,960	27,660	31,270	30,780

Cal yr 1966: Total 95,013.5 Mean 260 Max 5,000 Min 0 Ac-ft 184,500
 Wtr yr 1967: Total 221,267.8 Mean 606 Max 10,500 Min 1.0 Ac-ft 438,900

SACRAMENTO RIVER BASIN

11-3890. SACRAMENTO RIVER AT BUTTE CITY, CALIF.

LOCATION.--Lat 39°27'35", long 121°59'35", in NE¼ sec.32, T.19 N., R.1 W., on left bank 100 ft above highway bridge, 0.5 mile south of Butte City, and at mile 115.8 upstream from Sacramento.

DRAINAGE AREA.--12,096 sq mi.

RECORDS AVAILABLE.--April 1921 to September 1938 (low-water periods only), October 1938 to September 1967. Monthly discharge only for some periods, published in WSP 1315-A.

GAGE.--Graphic water-stage recorder. Datum of gage is set to datum of Corps of Engineers which is 2.92 ft below mean sea level. Prior to December 1930, at site 0.5 mile upstream at same datum.

AVERAGE DISCHARGE.--29 years (1938-67), 12,470 cfs (9,028,000 acre-ft per year).

EXTREMES.--Maximum discharge during year, 98,400 cfs Feb. 1 (gage height, 92.40 ft); minimum daily, 6,160 cfs Jan. 17-19.

1940-67: Maximum discharge, 170,000 cfs Feb. 7, 1942 (gage height, 96.87 ft).

1921-67: Minimum discharge recorded, 1,050 cfs July 15, 25, 26, 1931 (gage height, 67.49 ft).

REMARKS.--Records good. Natural flow of stream affected by storage reservoirs, power developments, unmeasured over-bank flow during extreme floods, diversions for irrigation, and return flow from irrigated areas. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6,880	7,400	20,100	11,300	97,000	12,300	14,800	24,700	17,300	12,400	10,700	10,400
2	6,800	7,540	24,500	11,200	80,500	11,900	16,900	22,900	17,500	12,400	10,600	10,500
3	6,860	7,470	47,500	10,900	65,700	11,500	13,600	21,000	18,900	12,400	10,500	10,600
4	6,960	7,500	47,300	10,800	59,200	11,200	12,500	20,400	17,900	12,400	10,600	10,700
5	6,900	7,650	41,200	9,740	55,700	10,700	11,900	19,900	17,300	12,000	10,500	10,800
6	6,980	7,650	54,100	8,770	53,300	10,600	12,900	19,900	17,200	12,000	10,600	10,700
7	7,040	8,460	51,000	7,390	51,200	10,500	19,800	19,300	17,100	11,900	10,600	10,800
8	7,000	8,390	51,400	7,650	44,500	9,370	21,600	19,200	16,700	11,500	10,700	10,700
9	7,000	8,150	53,500	7,540	34,700	9,740	20,300	19,400	16,000	11,300	10,600	10,600
10	7,020	8,200	54,400	7,400	27,500	9,250	19,400	19,900	16,100	11,300	10,500	10,500
11	7,040	8,060	51,800	6,960	24,600	9,930	19,900	20,900	15,700	11,200	10,600	10,700
12	7,060	8,130	31,600	6,920	23,100	13,800	21,200	19,900	15,700	11,100	10,600	10,800
13	7,080	8,440	24,400	6,420	22,500	14,200	19,100	19,700	15,400	11,000	10,600	10,700
14	7,160	8,570	24,500	6,360	22,100	13,300	20,500	20,100	15,300	10,900	10,600	10,700
15	7,180	9,080	24,300	6,360	21,000	13,100	21,500	19,700	14,900	10,900	10,600	10,600
16	7,160	10,300	21,900	6,360	20,200	15,400	21,000	20,000	14,700	10,800	10,400	10,600
17	7,200	12,500	20,700	6,160	19,200	26,000	20,500	20,700	14,500	11,000	10,400	10,700
18	7,200	10,200	19,900	6,160	18,400	20,700	23,700	21,300	14,300	10,900	10,400	10,800
19	7,140	9,560	19,400	6,160	17,500	18,000	28,400	21,500	14,200	10,700	10,500	10,900
20	7,080	21,000	18,900	6,260	16,900	15,700	29,500	21,700	14,200	10,700	10,500	10,600
21	7,260	28,600	18,600	22,500	16,300	15,600	27,700	22,800	13,900	10,700	10,500	10,500
22	7,300	19,100	18,300	62,200	15,300	15,200	26,100	23,700	13,800	10,700	10,500	10,500
23	7,280	17,700	18,200	48,300	14,100	14,500	26,000	23,900	13,500	10,800	10,600	10,500
24	7,280	15,200	17,900	28,500	13,400	14,800	28,600	24,000	13,100	10,700	10,600	10,600
25	7,280	15,900	17,100	41,200	13,300	13,800	30,300	23,900	13,100	10,700	10,700	10,600
26	7,160	15,700	16,600	30,100	13,400	12,900	30,100	23,300	13,000	10,700	10,700	10,600
27	7,280	15,600	16,300	44,700	12,900	12,300	29,200	22,100	12,800	10,600	10,900	10,600
28	7,200	15,500	16,000	47,100	12,600	11,700	31,900	20,900	12,600	10,600	10,900	10,400
29	7,340	22,400	15,200	57,600	- - - -	11,400	27,900	19,900	12,600	10,700	10,900	10,300
30	7,360	25,700	13,700	80,500	- - - -	11,200	25,800	19,000	12,500	10,700	10,500	10,200
31	7,360	- - - -	12,300	88,000	- - - -	11,700	- - - -	18,200	- - - -	10,700	10,200	- - - -
Total	220,340	375,750	883,700	708,010	886,600	412,790	672,700	648,900	452,200	346,300	328,100	318,200
Mean	7,124	12,520	28,510	22,840	31,660	13,320	22,420	20,930	15,070	11,170	10,580	10,610
Max	7,360	28,500	54,400	88,000	97,000	26,000	31,900	24,700	18,800	12,400	10,900	10,900
Min	6,300	7,400	12,900	6,160	12,500	9,250	11,900	18,200	12,500	10,600	10,200	10,200
Ac-ft	438,000	745,300	1,753,000	1,404,000	1,759,000	818,300	1,334,000	1,287,000	896,900	686,900	650,800	631,100

Cal yr 1966: Total 4,752,310 Mean 13,020 Max 68,600 Min 6,760 Ac-ft 9,426,000
Wtr yr 1967: Total 6,253,990 Mean 17,130 Max 97,000 Min 6,160 Ac-ft 12,400,000

SACRAMENTO RIVER BASIN

827

11-3895. SACRAMENTO RIVER AT COLUSA, CALIF.

LOCATION.--Lat 39°12'51", long 121°59'57", at north end of Jimeno Grant, on right bank just downstream from highway bridge at Colusa, and at mile 89.4 upstream from Sacramento.

DRAINAGE AREA.--12,110 sq mi.

RECORDS AVAILABLE.--April 1921 to October 1939 (low-water periods only), June 1940 to September 1967.

GAGE.--Digital water-stage recorder. Gage is set to datum of Corps of Engineers which is 2.95 ft below mean sea level. Prior to December 1930, graphic water-stage recorder in center fender pier 50 ft upstream from bridge at same datum. December 1930 to June 24, 1964, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--27 years (1940-67), 10,830 cfs (7,841,000 acre-ft per year).

EXTREMES.--Maximum discharge during year, 39,500 cfs Feb. 1 (gage height, 65.83 ft); minimum daily, 6,230 cfs Jan. 19.

1940-67: Maximum discharge, 49,000 cfs Feb. 8, 1942 (gage height, 69.20 ft).

1921-67: Minimum discharge recorded, 820 cfs July 25, 26, 1931 (gage height, 34.79 ft).

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.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	7,140	7,280	22,100	12,200	39,200	12,500	13,300	26,300	17,900	11,800	10,300	10,100
2	7,140	7,310	21,500	11,400	38,600	12,300	16,500	24,800	17,400	11,600	10,200	10,100
3	7,130	7,350	29,500	11,100	36,500	11,900	15,100	22,500	18,100	11,600	10,200	10,200
4	7,130	7,400	35,300	10,900	35,200	11,600	13,200	21,300	18,200	11,700	10,200	10,300
5	7,120	7,480	33,000	10,200	34,400	11,100	12,300	20,700	17,500	11,500	10,200	10,400
6	7,030	7,530	35,700	9,430	34,000	10,800	12,100	19,700	17,100	11,300	10,200	10,400
7	7,140	7,980	35,700	8,630	33,600	10,600	16,600	18,600	17,000	11,200	10,300	10,400
8	7,130	8,330	35,600	8,200	32,700	10,100	20,900	18,000	16,800	11,000	10,300	10,400
9	7,140	8,070	35,800	8,020	30,800	9,710	21,300	17,900	16,100	10,800	10,200	10,400
10	7,150	8,030	36,100	7,880	28,100	9,400	20,400	18,100	15,900	10,700	10,100	10,300
11	7,130	8,010	35,900	7,590	24,900	9,180	19,900	19,600	15,800	10,700	10,200	10,400
12	7,100	8,010	32,900	7,170	22,900	12,500	21,300	20,300	15,500	10,600	10,300	10,600
13	7,120	8,130	27,600	6,880	21,900	13,800	20,800	19,400	15,400	10,600	10,300	10,700
14	7,140	8,420	25,200	6,650	21,500	13,800	20,100	19,700	15,200	10,500	10,300	10,700
15	7,180	8,530	26,100	6,560	20,700	13,400	21,600	19,500	14,900	10,500	10,300	10,700
16	7,160	9,260	24,000	6,480	19,800	13,100	21,800	19,300	14,600	10,400	10,100	10,600
17	7,140	12,000	22,100	6,360	18,600	21,500	21,300	19,800	14,400	10,500	10,100	10,700
18	7,180	10,900	20,900	6,300	17,900	23,600	22,000	20,500	14,200	10,500	10,000	10,800
19	7,160	9,650	20,000	6,230	17,000	19,900	27,200	21,000	14,000	10,300	10,000	10,900
20	7,100	13,200	19,300	6,250	16,400	17,400	29,200	21,100	13,900	10,300	10,100	10,800
21	7,160	25,700	18,900	11,300	16,000	15,800	29,400	22,000	13,700	10,300	10,100	10,600
22	7,200	22,500	18,500	31,600	15,000	15,800	27,800	23,000	13,500	10,300	10,100	10,600
23	7,280	19,300	18,300	35,100	14,000	15,100	26,900	23,800	13,200	10,400	10,100	10,600
24	7,210	16,000	18,100	29,500	13,300	14,800	28,400	24,100	12,800	10,400	10,100	10,700
25	7,270	15,500	17,600	31,100	13,100	14,600	30,200	24,300	12,700	10,400	10,100	10,600
26	7,190	15,500	16,800	30,200	13,200	13,600	30,400	24,000	12,500	10,300	10,200	10,600
27	7,160	15,200	16,500	30,800	13,000	12,800	30,300	23,200	12,300	10,200	10,400	10,600
28	7,210	15,000	16,200	32,900	12,700	12,100	30,900	21,900	12,100	10,200	10,400	10,500
29	7,220	17,000	15,500	33,700	-----	11,600	30,200	20,500	12,000	10,300	10,400	10,300
30	7,220	24,400	14,400	36,700	-----	11,400	28,000	19,400	11,900	10,300	10,300	10,200
31	7,260	-----	13,300	38,300	-----	11,300	-----	18,400	-----	10,400	10,100	-----
TOTAL	222,040	358,970	758,400	505,630	655,000	417,090	679,400	652,700	446,600	331,600	316,200	315,200
MEAN	7,163	11,970	24,460	16,310	23,390	13,450	22,650	21,050	14,890	10,700	10,200	10,510
MAX	7,280	25,700	36,100	38,300	39,200	23,600	30,900	26,300	18,200	11,800	10,400	10,900
MIN	7,030	7,280	13,300	6,230	12,700	9,180	12,100	17,900	11,900	10,200	10,000	10,100
AC-FT	440,400	712,000	1,504M	1,003M	1,299M	827,300	1,348M	1,295M	885,800	657,700	627,200	625,200

CAL YR 1966: TOTAL 4,530,070 MEAN 12,410 MAX 38,600 MIN 7,030 AC-FT 8,985,000
WAT YR 1967: TOTAL 5,658,830 MEAN 15,500 MAX 39,200 MIN 6,230 AC-FT 11,220,000

SACRAMENTO RIVER BASIN

11-3897. BUTTE CREEK AT BUTTE MEADOWS, CALIF.

LOCATION.--Lat 40°04'05", long 121°34'25", in NW $\frac{1}{4}$ sec.31, T.26 N., R.4 E., on right bank 1.0 mile downstream from small tributary, 1.5 miles southwest of Butte Meadows, and 15 miles northeast of Forest Ranch.

DRAINAGE AREA.--44.4 sq mi.

RECORDS AVAILABLE.--August 1960 to September 1967.

GAGE.--Digital water-stage recorder. Altitude of gage is 4,260 ft (from topographic map). Prior to Oct. 13, 1966, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--7 years, 126 cfs (91,220 acre-ft per year).

EXTREMES.--Maximum discharge during year, 836 cfs Jan. 29 (gage height, 4.01 ft); minimum daily, 52 cfs for many days in October.

1960-67: Maximum discharge, 4,290 cfs Dec. 22, 1964 (gage height, 7.64 ft); minimum, 46 cfs Sept. 4, 1961.

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

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	52	53	230	75	370	116	187	112	392	174	79	66
2	53	53	320	74	305	114	178	119	351	165	79	65
3	53	53	251	74	271	112	176	129	339	156	79	66
4	52	53	219	74	247	110	169	142	352	147	78	66
5	53	53	292	74	229	108	166	148	346	140	77	66
6	53	70	202	71	213	106	165	166	341	124	77	65
7	53	59	170	71	204	105	159	212	346	125	76	65
8	53	56	143	71	194	105	157	272	346	123	75	65
9	53	55	129	70	186	110	158	325	358	119	75	64
10	53	55	127	70	180	120	154	340	349	115	75	64
11	53	57	116	71	175	220	147	291	349	111	75	64
12	53	72	113	70	178	200	146	274	341	108	74	64
13	53	59	131	70	179	185	146	279	327	104	73	63
14	52	64	123	70	174	170	144	307	320	102	73	63
15	53	118	113	69	164	180	138	373	323	95	73	63
16	53	169	107	69	159	450	132	460	329	95	72	63
17	53	68	103	68	154	378	133	522	331	97	72	64
18	53	61	98	67	149	321	133	590	337	94	71	65
19	53	211	95	67	143	279	129	635	346	92	71	63
20	53	390	93	76	137	268	126	671	326	91	70	63
21	53	137	91	266	134	269	121	709	304	90	70	63
22	53	100	89	205	131	259	118	750	280	88	69	64
23	53	82	88	145	130	328	117	711	260	87	69	64
24	52	75	86	130	129	279	119	704	248	86	69	64
25	52	71	84	120	129	257	120	676	239	85	73	63
26	52	70	81	115	123	240	115	628	225	84	73	63
27	53	68	79	130	120	231	119	588	213	83	70	62
28	52	119	78	280	118	226	111	539	206	83	68	62
29	52	251	78	690	-----	211	108	514	195	82	67	62
30	52	138	77	560	-----	204	108	476	185	82	67	63
31	52	-----	76	440	-----	198	-----	430	-----	80	66	-----
TOTAL	1,633	2,940	4,082	4,502	5,025	6,459	4,199	13,092	9,204	3,329	2,255	1,917
MEAN	52.7	98.0	132	145	179	208	140	422	307	107	72.7	63.9
MAX	53	390	320	690	370	450	187	750	392	174	79	66
MIN	52	53	76	67	118	105	108	112	185	80	66	62
AC-FT	3,240	5,830	8,100	8,930	9,970	12,810	8,330	25,970	18,260	6,600	4,470	3,800

CAL YR 1966: TOTAL 37,880

MEAN 104

MAX 405

MIN 52

AC-FT 75,130

WAT YR 1967: TOTAL 58,637

MEAN 161

MAX 750

MIN 52

AC-FT 116,300

Peak discharge (base, 350 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-16	0215	3.12	358	1-29	0800	4.01	836
11-20	0045	3.94	794	3-16	1300	3.55	575
12-02	1930	3.49	535	3-23	0445	3.14	374
12-05	0230	3.34	460	5-22	1915	3.94	831
1-21	1730	3.27	425				

Note.--No gage-height record Jan. 23 to Feb. 2.

SACRAMENTO RIVER BASIN

829

11-3900. BUTTE CREEK NEAR CHICO, CALIF.

LOCATION.--Lat 39°43'34", long 121°42'28", in NW¼NW¼ sec.36, T.22 N., R.2 E., on right bank 0.7 mile downstream from Little Butte Creek and 7.5 miles east of Chico.

DRAINAGE AREA.--147 sq mi.

RECORDS AVAILABLE.--October 1930 to September 1967. Monthly discharge only for some periods, published in WSP 1315-A.

GAGE.--Digital water-stage recorder. Altitude of gage is 320 ft (from topographic map). Prior to Aug. 13, 1944, graphic water-stage recorder at site 0.4 mile upstream at different datum. Aug. 13, 1944, to Dec. 7, 1964, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--37 years, 396 cfs (286,700 acre-ft per year), unadjusted.

EXTREMES.--Maximum discharge during year, 6,830 cfs Jan. 21 (gage height, 8.44 ft); minimum daily, 65 cfs Nov. 11.

1930-67: Maximum discharge, 21,200 cfs Dec. 22, 1964 (gage height, 14.12 ft), from rating curve extended above 8,900 cfs on basis of slope-area measurement at gage height 13.35 ft; minimum, 10 cfs Nov. 29, 1952.

REMARKS.--Records good. Flow slightly regulated by storage in Magalia Reservoir (capacity, 3,540 acre-ft) and since 1957 by Paradise Reservoir (capacity, 6,430 acre-ft). Diversions above station for irrigation and domestic use of about 4,200 acre-ft annually. Butte Creek receives water above station from West Branch Feather River by way of Toadtown Canal. Records of chemical analyses and water temperatures for the water year 1967 are published in Part 2 of this report.

†† TOADTOWN CANAL DIVERSION FROM WEST BRANCH FEATHER, WATER YEAR OCTOBER 1965 TO SEPTEMBER 1966

Month	Mean discharge	Acre- feet	Month	Mean discharge	Acre- feet	Month	Mean discharge	Acre- feet
October.....	44.8	2,760	February....	92.0	5,110	June.....	83.2	4,950
November....	46.8	2,790	March.....	104	6,400	July.....	57.3	3,520
December....	64.5	3,970	April.....	111	6,580	August.....	55.0	3,380
January.....	85.4	5,250	May.....	109	6,700	September...	50.7	3,020
Water year 1965-66...	75.2	54,430						

†† Not previously published.

SACRAMENTO RIVER BASIN

11-3900. BUTTE CREEK NEAR CHICO, CALIF.--Continued

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	114	81	809	261	2,780	415	852	712	816	344	188	183
2	114	79	1,860	254	1,910	405	765	712	747	334	187	184
3	114	80	1,550	248	1,440	405	744	728	679	219	167	180
4	114	80	1,430	245	1,190	395	751	760	674	309	183	176
5	114	79	2,770	244	1,030	385	883	790	704	302	182	175
6	114	125	1,230	235	899	380	1,740	780	663	254	182	178
7	114	144	780	231	822	375	1,510	920	658	250	182	177
8	114	93	564	227	738	375	1,160	1,120	644	281	181	177
9	112	88	465	223	684	375	1,040	1,250	650	272	179	178
10	111	76	521	219	658	415	1,040	1,370	632	270	179	178
11	111	65	487	224	634	955	1,070	1,160	623	268	179	181
12	113	155	447	224	627	800	947	1,060	629	262	178	179
13	116	155	456	222	618	730	891	980	618	256	175	178
14	118	125	483	219	599	628	883	990	575	255	175	176
15	118	395	429	210	561	589	830	1,110	562	244	174	176
16	119	550	400	211	539	3,120	751	1,270	555	233	174	176
17	118	230	380	208	517	2,420	891	1,360	563	232	173	176
18	117	155	367	205	502	1,610	987	1,380	551	220	170	157
19	117	950	354	202	493	1,320	995	1,380	566	215	170	179
20	117	1,730	344	639	460	1,230	995	1,400	547	212	170	176
21	119	900	335	5,080	455	1,210	923	1,420	518	211	170	174
22	120	850	322	2,970	447	1,140	845	1,440	487	205	171	176
23	119	320	317	1,320	436	1,540	830	1,440	459	200	171	180
24	117	230	310	1,240	441	1,270	883	1,420	443	196	168	177
25	101	155	303	955	509	1,090	860	1,300	429	197	168	176
26	87	155	295	830	461	971	830	1,200	415	201	177	174
27	85	155	286	915	437	883	1,070	1,130	394	198	174	169
28	84	215	279	1,870	431	860	963	1,060	382	195	169	168
29	83	1,040	276	4,740	-----	800	852	960	370	196	167	157
30	82	540	271	3,970	-----	808	772	920	353	192	162	152
31	72	-----	265	4,710	-----	907	-----	846	-----	190	175	-----
TOTAL	3,368	10,035	19,425	33,551	21,318	28,806	28,553	34,368	16,906	7,555	5,440	5,243
MEAN	109	335	627	1,082	761	925	952	1,109	564	245	175	175
MAX	120	1,730	2,770	5,080	2,780	3,120	1,740	1,440	816	344	188	184
MIN	72	65	265	202	431	375	744	712	353	190	162	152
AC-FT	6,680	19,900	38,530	66,550	42,280	57,140	56,630	68,170	33,530	15,070	10,750	10,400
Mean †	44.3	23.1	75.4	96.1	11.9	11.9	12.2	12.4	11.9	97.9	81.2	91.9
Ac-ft†	2,720	1,570	4,640	5,910	6,610	7,330	7,230	7,600	7,090	6,020	4,990	5,470

Cal yr 1966: Total 122,555 Mean 336 Max 2,770 Min 65 Ac-ft 243,100 Mean † 74.1 Ac-ft † 53,640
 Wtr yr 1967: Total 214,612 Mean 588 Max 5,080 Min 65 Ac-ft 425,700 Mean † 92.5 Ac-ft † 66,980

Peak discharge (base, 2,700 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-02	2100	5.60	3,490	1-29	0730	7.88	6,150
12-05	0400	6.26	4,220	3-16	1645	6.09	4,270
1-21	1745	8.44	6,830				

† Toadtown Canal diversion from West Branch Feather River. Record furnished by Pacific Gas and Electric Company.

11-3905. SACRAMENTO RIVER BELOW WILKINS SLOUGH, NEAR GRIMES, CALIF.

LOCATION.--Lat 39°00'36", long 121°49'25", in NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec.2, T.13 N., R.1 E., on right bank 1,200 ft (revised) downstream from Wilkins Slough, 5.8 miles southeast of Grimes, and at mile 82.9 upstream from Sacramento.

DRAINAGE AREA.--12,940 sq mi.

RECORDS AVAILABLE.--August 1931 to September 1938 (low-water periods only), October 1938 to September 1967. Monthly discharge only for some periods, published in WSP 1315-A. Prior to October 1965, published as "below Wilkins Slough."

GAGE.--Graphic water-stage recorder. Gage is set to datum of Corps of Engineers which is 3.00 ft below mean sea level.

AVERAGE DISCHARGE.--29 years (1938-67), 9,520 cfs (6,892,000 acre-ft per year).

EXTREMES.--Maximum discharge during year, 26,400 cfs Dec. 11; maximum gage height, 49.00 ft; minimum daily, 6,700 cfs Oct. 2.

1938-67: Maximum discharge, 28,900 cfs Feb. 27, 1958 (gage height, 51.41 ft); maximum gage height, 52.75 ft Mar. 1, 1940.

1931-67: Minimum discharge recorded, 100 cfs Aug. 1, 1931 (gage height, 14.20 ft).

REMARKS.--Records fair. Natural flow of stream affected by storage reservoirs, power developments, bypassing for flood control, diversions for irrigation, and return flow from irrigated areas. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6,750	6,990	22,900	13,800	26,100	13,400	12,600	24,700	17,500	10,600	9,400	9,650
2	6,700	7,010	21,100	13,000	26,200	13,100	16,100	24,400	17,000	10,500	9,200	9,700
3	6,740	7,110	24,000	12,200	25,800	12,700	16,600	23,400	17,400	10,600	9,400	9,940
4	6,820	7,150	26,000	11,300	25,500	12,300	14,400	22,100	18,100	10,600	9,200	10,100
5	6,890	7,180	25,900	10,900	25,300	12,000	13,300	21,300	17,900	10,700	9,300	10,100
6	6,820	7,300	26,100	10,300	25,300	11,600	12,800	20,400	16,900	10,400	9,400	10,300
7	6,840	7,480	26,200	9,650	25,200	11,500	14,800	19,300	16,500	10,200	9,400	10,300
8	6,960	8,010	26,200	9,110	25,000	11,200	19,900	18,400	16,300	10,200	9,500	10,400
9	6,940	8,010	26,200	8,840	24,800	10,700	21,800	17,900	15,600	9,840	9,510	10,400
10	6,920	7,950	26,200	8,660	24,300	10,400	21,200	17,500	15,000	9,750	9,470	10,400
11	6,920	7,890	26,400	8,480	23,600	9,920	20,600	18,100	14,800	9,300	9,490	10,400
12	6,890	7,810	26,000	8,120	23,000	11,600	21,300	19,400	14,600	9,200	9,580	10,800
13	6,880	7,860	25,000	7,850	22,600	14,100	21,700	18,900	14,500	9,400	9,660	11,000
14	6,890	8,120	24,200	7,500	22,500	14,600	20,700	19,000	14,200	9,500	9,660	11,000
15	6,920	8,330	24,300	7,420	22,000	14,100	21,800	18,900	13,900	9,500	9,630	11,000
16	6,930	8,700	23,800	7,340	21,200	13,700	22,600	18,700	13,600	9,500	9,540	11,000
17	6,910	10,500	22,800	7,160	20,200	17,400	22,300	18,800	13,200	9,600	9,440	10,900
18	6,920	11,300	21,600	7,080	19,400	22,400	22,300	19,400	12,800	10,000	9,420	11,200
19	6,930	10,100	20,600	7,080	18,500	20,800	24,800	19,800	12,600	9,400	9,400	11,300
20	6,920	10,500	19,900	7,080	17,900	18,400	25,400	19,800	12,300	9,100	9,440	11,300
21	6,900	20,000	19,400	8,660	17,400	16,500	25,400	20,400	12,400	9,200	9,510	11,100
22	6,980	23,000	19,000	22,700	16,700	16,100	25,000	21,300	12,000	9,600	9,430	11,000
23	7,010	20,000	19,000	25,400	15,600	15,700	24,700	22,300	11,700	9,400	9,410	10,900
24	7,010	17,500	19,000	24,600	14,600	15,100	25,000	22,600	11,400	9,600	9,380	10,900
25	7,010	16,000	18,500	24,400	14,200	15,100	25,300	22,800	11,200	9,200	9,420	10,900
26	7,010	16,500	18,000	24,900	14,100	14,000	25,500	22,700	11,100	9,100	9,600	10,800
27	6,920	17,000	17,200	24,700	14,000	13,300	25,500	22,200	10,900	9,000	9,780	10,700
28	6,980	17,500	16,500	25,300	13,700	12,700	25,600	21,300	10,700	9,000	9,890	10,600
29	6,970	18,000	16,000	25,300	- - - - -	12,100	25,600	19,900	10,600	9,000	9,840	10,400
30	6,990	21,000	15,200	25,400	- - - - -	11,900	25,200	18,800	10,600	9,200	9,820	10,300
31	6,990	- - - - -	14,500	25,800	- - - - -	11,800	- - - - -	18,000	- - - - -	9,400	9,690	- - - - -
Total	214,260	351,800	677,700	439,930	584,700	430,220	639,800	632,400	417,300	299,590	294,810	318,690
Mean	6,912	11,730	21,860	14,190	20,880	13,880	21,330	20,400	13,910	9,664	9,510	10,620
Max	7,010	23,000	26,400	25,800	26,200	22,400	25,600	24,700	18,100	10,700	9,890	11,300
Min	6,700	6,990	14,500	7,080	13,700	9,920	12,600	17,500	10,600	9,000	9,200	9,650
Ac-ft	425,000	697,800	1,344,000	872,600	1,160,000	853,300	1,269,000	1,254,000	827,700	594,200	584,700	632,100

Cal yr 1966: Total 4,228,320 Mean 11,580 Max 27,000 Min 6,140 Ac-ft 8,387,000
Wtr yr 1967: Total 5,301,200 Mean 14,520 Max 26,400 Min 6,700 Ac-ft 10,510,000

SACRAMENTO RIVER BASIN

11-3906.55. SOUTH FORK WILLOW CREEK NEAR FRUTO, CALIF.

LOCATION.--Lat 39°32'30", long 122°23'20", in SE¼ sec.35, T.20 N., R.5 W., on right bank 150 ft downstream from county road bridge and 4.5 miles southeast of Fruto.

DRAINAGE AREA.--38.9 sq mi.

RECORDS AVAILABLE.--July 1963 to September 1967.

GAGE.--Graphic water-stage recorder. Altitude of gage is 375 ft (from topographic map).

EXTREMES.--Maximum discharge during year, 1,440 cfs Jan. 30 (gage height, 8.97 ft), from rating curve extended above 50 cfs as explained below; no flow for several months.
1963-67: Maximum discharge, 1,920 cfs Jan. 5, 1965 (gage height, 9.94 ft), from rating curve extended above 50 cfs on basis of slope-area measurement of maximum flow; no flow for several months in each year.

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

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	0	30	0.60	0.50	4.3	0.20			
2			.10	0	18	.60	.30	3.9	1.8			
3			0	0	13	.60	.30	3.4	3.0			
4			.30	0	10	.50	.30	2.9	.90			
5			12	0	7.7	.40	.30	2.5	.50			
6			1.1	0	5.7	.40	.50	2.2	.40			
7			.20	0	5.1	.40	6.9	1.9	.30			
8			0	0	4.3	.40	1.4	1.8	.20			
9			0	0	3.9	.40	.70	1.7	.20			
10			0	0	3.4	.40	2.7	1.4	.10			
11			0	0	2.9	.50	2.2	1.3	.10			
12			0	0	2.5	.90	1.0	1.2	.10			
13			0	0	2.4	1.3	.60	.90	.50			
14			0	0	1.9	.70	.40	.70	.60			
15			0	0	1.7	.60	.40	.70	.20			
16			0	0	1.4	11	.30	.60	0			
17			0	0	1.4	3.0	.40	.60	0			
18			0	0	1.3	1.4	.40	.50	0			
19			0	0	1.0	1.0	.40	.50	0			
20			0	0	.90	.90	.50	.40	0			
21			0	59	.90	1.0	30	.40	0			
22			0	14	.90	.80	17	.30	0			
23			0	1.0	.90	.60	22	.30	0			
24			0	203	.60	.50	64	.20	0			
25			0	28	.90	.40	22	.10	0			
26			0	97	.90	.40	13	.10	0			
27			0	59	.70	.30	9.8	.10	0			
28			0	77	.70	.30	7.7	.10	0			
29			0	78	---	.30	6.2	.10	0			
30			0	265	---	.40	4.9	.10	0			
31		-----	0	84	---	.50	---	0	-----			-----
Total	0	0	13.70	965.0	125.20	31.50	217.10	35.20	9.10	0	0	0
Mean	0	0	.44	31.1	4.47	1.02	7.24	1.14	.30	0	0	0
Max	0	0	12	265	30	11	64	4.3	3.0	0	0	0
Min	0	0	0	0	.70	.30	.30	0	0	0	0	0
Ac-ft	0	0	27	1,910	248	62	431	70	18	0	0	0

Cal yr 1966: Total 461.1 Mean 1.26 Max 143 Min 0 Ac-ft 915
Wtr yr 1967: Total 1,396.8 Mean 3.83 Max 265 Min 0 Ac-ft 2,770

Peak discharge (base, 100 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
1-21	1000	4.94	184	1-30	1530	8.97	1,440
1-24	0530	6.93	634	4-24	0600	4.74	154
1-26	1230	5.84	348				

SACRAMENTO RIVER BASIN

833

11-3908.6. WALKER CREEK AT ARTOIS, CALIF.

LOCATION.--Lat 39°37'32", long 122°11'45", in SW¼SW¼ sec.34, T.21 N., R.3 W., on left bank 500 ft upstream from county road bridge and 0.3 mile north of Artois.

DRAINAGE AREA.--80.4 sq mi.

RECORDS AVAILABLE.--July 1965 to September 1967.

GAGE.--Digital water-stage recorder. Datum of gage is 156.4 ft above mean sea level (levels by Corps of Engineers).

EXTREMES.--Maximum discharge during year, 1,850 cfs Jan. 30 (gage height, 9.21 ft), from rating curve extended above 250 cfs; no flow for several days.

1965-67: Maximum discharge, 1,850 cfs Jan. 30, 1967 (gage height, 9.21 ft), from rating curve extended above 250 cfs; no flow at times in 1966 and 1967.

REVISIONS.--The maximum discharge for the water year 1966 has been revised to 1,210 cfs Feb. 4, 1966 (gage height, 8.12 ft), superseding figure published in Surface Water Records of California, Part 1 Vol. 2, 1966.

REMARKS.--Records good. No known storage above station. Several small diversions for irrigation above station.

REVISIONS.--Revised figures of discharge, in cubic feet per second for the water year 1966, superseding those published in Surface Water Records of California, Part 1 Vol. 2, 1966, are given herewith:

Nov. 14, 1965.... 53 Nov. 17, 1965.... 47 Feb. 1, 1966.... 145
15..... 77 18..... 264 4..... 624
16..... 75 Jan. 5, 1966... 154 5..... 147

Month	Cfs-days	Maximum	Minimum	Mean	Acre-feet
November 1965	811.3	264	1.9	27.0	1,610
January 1966	531.4	154	0.4	17.1	1,050
February 1966	1,490.0	624	4.6	53.2	2,960
Calendar year 1965	-	-	-	-	-
Water year 1965-66	4,123.6	624	0	11.3	8,180

Revised peak discharge.--1966: Nov. 18 (0200) 567 cfs (6.72 ft); Jan. 5 (1515) 295 cfs (5.74 ft); Feb. 1 (1615) 484 cfs (6.46 ft).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	7.6	1.6	17	1.6	99	1.9	4.3	3.1	8.2	.97	4.7	7.9
2	6.8	2.4	137	1.4	58	1.6	2.3	2.4	24	2.3	4.9	12
3	6.1	3.2	375	1.4	38	1.5	1.6	1.9	33	2.4	3.1	4.9
4	6.6	2.1	94	1.3	27	1.4	1.1	1.8	18	7.0	5.4	2.8
5	8.9	1.2	319	1.3	22	1.2	.90	1.5	8.4	9.4	8.8	4.4
6	7.1	.80	128	1.1	17	1.3	1.6	1.2	13	10	8.4	4.8
7	7.1	.60	62	.90	14	1.2	2.2	1.2	13	4.3	6.5	4.2
8	4.2	2.0	30	.80	12	1.0	2.5	1.7	13	10	5.5	2.7
9	4.7	1.1	18	.80	11	1.0	2.1	2.4	10	12	6.9	5.0
10	6.2	.60	18	.70	9.7	.80	1.7	4.1	5.2	15	6.5	9.3
11	5.6	.30	25	.50	8.4	1.5	1.6	2.2	3.1	8.0	2.5	7.5
12	6.7	.10	14	.70	7.3	2.2	1.3	1.4	3.9	5.4	2.4	4.7
13	3.7	0	11	.70	6.8	2.7	1.0	7.2	5.5	3.9	3.5	7.5
14	3.0	0	24	.50	6.1	2.8	.80	8.5	3.8	2.8	2.9	4.9
15	5.2	0	18	.40	5.5	2.3	.60	3.6	2.3	3.4	4.8	6.7
16	6.6	.40	11	.30	5.0	6.2	.50	2.7	2.2	3.3	2.8	12
17	4.5	.30	8.6	.20	4.6	9.7	.30	6.1	3.4	7.0	1.7	16
18	4.8	.10	7.3	0	4.2	4.4	.50	6.0	5.7	4.4	2.7	8.3
19	3.9	1.9	6.1	0	3.7	2.8	.50	6.3	5.4	2.6	5.9	9.3
20	2.5	122	5.4	1.2	3.2	2.5	.40	6.1	6.0	4.2	8.6	7.2
21	1.9	68	4.8	72	2.9	2.1	.50	3.9	8.2	8.6	8.6	5.6
22	1.2	19	4.2	107	2.7	1.7	.70	7.4	4.3	11	12	7.4
23	.60	9.8	3.7	28	2.5	1.6	1.0	12	2.7	7.3	5.4	11
24	.30	5.9	3.2	617	2.4	1.4	38	7.9	1.5	7.5	5.0	9.9
25	.10	3.9	3.0	154	3.2	1.2	43	2.4	4.9	4.3	3.8	8.8
26	0	2.8	2.7	241	2.7	1.7	22	3.9	3.5	3.3	5.5	6.6
27	0	2.2	2.4	312	2.6	2.9	13	3.9	9.3	3.4	11	4.8
28	3.9	3.0	2.3	294	2.1	3.2	8.1	3.0	4.1	3.0	9.8	3.6
29	3.4	26	1.9	290	-----	6.4	5.6	4.4	2.7	6.1	5.7	3.1
30	2.2	34	1.8	506	-----	10	4.1	4.3	1.3	10	3.5	4.2
31	1.7	-----	1.7	299	-----	9.7	-----	3.1	-----	5.4	8.5	-----
TOTAL	127.10	315.30	1,360.1	2,935.80	383.6	91.90	163.80	127.6	229.6	188.27	177.3	207.1
MEAN	4.10	10.5	43.9	94.7	13.7	2.96	5.46	4.12	7.65	6.07	5.72	6.90
MAX	8.9	122	375	617	99	10	43	12	33	15	12	16
MIN	0	0	1.7	0	2.1	.80	.30	1.2	1.3	.97	1.7	2.7
AC-FT	252	625	2,700	5,820	761	182	325	253	455	373	352	411

CAL YR 1966: TOTAL 4,892.10 MEAN 13.4 MAX 624 MIN 0 AC-FT 9,700
WAT YR 1967: TOTAL 6,307.47 MEAN 17.3 MAX 617 MIN 0 AC-FT 12,510

Peak discharge (base, 160 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-20	1145	5.31	252	12-05	0600	7.14	766	1-24	1115	9.06	1,750	1-30	2015	9.21	1,850
12-02	2315	8.28	1,290	1-21	1930	5.63	321	1-26	1700	7.25	810				

SACRAMENTO RIVER BASIN

11-3906.72. STONE CORRAL CREEK NEAR SITES, CALIF.

LOCATION.--Lat 39°17'18", long 122°18'00", in NW¼NW¼ sec.34, T.17 N., R.4 W., on left bank at road bridge 2.4 miles southeast of Sites.

DRAINAGE AREA.--38.2 sq mi (revised).

RECORDS AVAILABLE.--March 1958 to September 1964, October 1965 to September 1967.

GAGE.--Graphic water-stage recorder. Altitude of gage is 180 ft (from topographic map).

AVERAGE DISCHARGE.--8 years, 2.96 cfs (2,140 acre-ft per year).

EXTREMES.--Maximum discharge during year, 2,440 cfs Jan. 30 (gage height, 14.11 ft), from rating curve extended above 1,200 cfs as explained below; no flow for several months.

1958-64, 1965-67: Maximum discharge, 2,500 cfs Apr. 2, 1958 (gage height, 14.93 ft), from rating curve extended above 1,200 cfs on basis of slope-conveyance study at gage height 13.0 ft; no flow for several months in each year.

Flood of Dec. 22, 1964, reached a stage of 13.0 ft from floodmarks (discharge, 1,940 cfs, from slope-conveyance study).

REMARKS.--No known diversion or regulation above station. Records of water temperatures and suspended-sediment loads for the water year 1967 are published in Part 2 of this report.

COOPERATION.--Records furnished by U.S. Bureau of Reclamation and reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	0	0.30	4.5	2.5	6.0	4.7	0.40	0.40		
2		0	24	.20	30	2.5	5.1	4.0	2.9	.30		
3		0	10	.20	22	2.5	5.0	3.7	3.9	.20		
4		0	34	.20	18	2.3	5.1	3.8	1.3	.10		
5		0	101	.20	15	2.2	5.4	3.6	.70	.10		
6		0	17	.20	12	2.0	11	3.7	.80	0		
7		0	6.6	.20	11	2.1	11	3.8	.80	0		
8		0	3.1	.20	9.3	2.1	7.4	4.1	.80	0		
9		0	2.1	.20	8.6	2.1	6.8	3.8	.80	0		
10		0	3.9	.20	7.6	2.2	7.3	3.1	.70	0		
11		0	2.4	.20	6.6	3.6	8.2	2.1	.80	0		
12		0	1.7	.20	6.3	11	8.4	1.9	1.6	0		
13		0	2.4	.20	6.1	6.9	8.8	1.7	3.5	0		
14		0	2.3	.20	5.2	4.0	9.4	1.7	1.7	0		
15		0	1.6	.20	4.7	6.3	11	1.5	1.1	0		
16		0	1.3	.20	4.6	5.5	15	1.2	1.0	0		
17		0	1.1	.10	4.5	11	12	.90	.90	0		
18		0	1.0	.10	4.2	7.9	14	.50	.90	0		
19		2.1	.90	.10	4.4	6.7	20	.30	.90	0		
20		3.0	.80	1.3	5.0	6.6	19	.20	.90	0		
21		.40	.70	480	4.7	7.5	241	.10	.90	0		
22		0	.60	49	4.7	6.3	47	.10	.80	0		
23		0	.50	15	4.8	6.0	70	0	.80	0		
24		0	.50	334	4.7	5.4	183	0	.70	0		
25		0	.50	49	4.9	5.3	40	0	.80	0		
26		0	.50	185	3.5	5.3	20	0	.70	0		
27		0	.40	137	2.8	5.2	13	0	.70	0		
28		0	.30	104	2.5	5.1	9.4	0	.60	0		
29		0	.30	241	-----	5.1	7.1	.10	.50	0		
30		0	.30	592	-----	10	5.4	.10	.40	0		
31		-----	.30	129	-----	10	-----	.10	-----	0		-----
Total	0	5.50	222.10	2319.90	262.7	212.7	831.8	50.80	38.30	1.10	0	0
Mean	0	0.18	7.16	74.8	9.38	6.86	27.7	1.64	1.28	0.04	0	0
Max	0	3.0	101	592	4.5	5.5	241	4.7	8.5	.40	0	0
Min	0	0	0	0.10	2.5	2.0	5.0	0	.40	0	0	0
Ac-ft	0	11	441	4,600	521	422	1,650	101	76	2.2	0	0
Cal yr 1966: Total	902.50	Mean	2.47	Max	157	Min	0	Ac-ft	1,790			
Wtr yr 1967: Total	3,944.90	Mean	10.8	Max	592	Min	0	Ac-ft	7,820			

11-3910. SACRAMENTO RIVER AT KNIGHTS LANDING, CALIF.

LOCATION.--Lat 38°48'10", long 121°42'55", in NE $\frac{1}{4}$ sec.14, T.11 N., R.2 E., on left bank just upstream from Southern Pacific Railroad bridge at Knights Landing, 13.1 miles upstream from Feather River, and at mile 34.0 upstream from Sacramento.

DRAINAGE AREA.--14,550 sq mi.

RECORDS AVAILABLE.--April 1921 to October 1939 (low-water periods only), June 1940 to September 1967. Monthly discharge only for some periods, published in WSP 1315-A.

GAGE.--Graphic water-stage recorder. Gage is set to datum of Corps of Engineers which is 2.93 ft below mean sea level. Prior to Dec. 9, 1930, in fender pier of railroad bridge at same datum. Water-stage recorder for station at Verona was used as auxiliary gage for this station January 1941 to June 1945. Since Aug. 16, 1945, auxiliary water-stage recorder 6.0 miles downstream from base gage.

AVERAGE DISCHARGE.--27 years (1940-67), 10,250 cfs (7,421,000 acre-ft per year).

EXTREMES.--Maximum discharge during year, 27,900 cfs Feb. 1 (gage height, 39.04 ft); minimum daily discharge, 7,310 cfs Oct. 3; minimum gage height, 17.30 ft Oct. 30.
1940-67: Maximum discharge, 30,000 cfs Dec. 3, 1960 (gage height, 30.31 ft); maximum gage height, 41.83 ft Feb. 8, 1942 (backwater from Feather River and Sutter bypass).
1921-67: Minimum discharge recorded, 250 cfs July 23, 1931 (gage height, 7.80 ft).

REMARKS.--Records good. Natural flow of stream affected by storage reservoirs, power developments, bypassing for flood control, diversions for irrigation, and considerable return flow from irrigated areas. Records of chemical analyses near this gaging station for the water year 1967 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7,400	7,790	23,200	14,800	27,600	13,700	13,500	25,100	18,400	10,900	10,200	10,900
2	7,380	7,380	21,400	13,400	27,800	13,500	16,600	25,000	18,100	10,800	10,000	10,900
3	7,310	7,970	22,200	12,800	27,000	13,100	17,700	24,000	18,400	10,700	10,100	11,000
4	7,400	7,830	25,600	12,300	26,400	12,900	15,900	22,600	19,500	10,800	9,970	11,100
5	7,770	7,950	25,400	12,200	26,400	12,600	14,700	20,800	18,500	10,600	10,100	11,400
6	7,750	8,220	25,400	11,700	26,100	12,100	13,800	19,900	17,400	10,200	10,300	11,600
7	7,780	8,450	26,100	11,200	26,300	11,700	14,700	18,700	17,000	10,000	10,300	11,700
8	7,820	9,090	26,500	10,300	26,300	11,300	19,900	17,200	16,300	10,200	10,400	11,700
9	7,640	9,310	26,400	9,960	26,100	11,000	22,200	16,300	16,300	10,200	10,300	11,800
10	7,720	9,260	26,300	9,670	25,600	10,500	22,200	15,000	15,500	9,990	10,200	12,100
11	7,590	9,010	26,400	9,620	24,700	9,710	21,400	16,100	15,300	9,900	10,200	12,200
12	7,570	8,980	26,200	9,190	24,100	10,600	21,700	18,300	15,100	9,880	10,200	12,600
13	7,770	8,870	25,200	8,900	24,000	13,700	22,800	18,800	14,700	9,930	10,400	13,100
14	7,660	9,050	24,400	8,560	23,400	14,600	21,700	18,500	14,600	9,990	10,500	13,500
15	7,630	9,490	25,100	8,330	23,200	14,500	21,900	18,300	14,600	9,960	10,400	13,600
16	7,720	9,820	25,400	8,300	22,000	14,000	23,100	17,200	14,100	10,100	10,200	13,700
17	7,650	10,300	24,200	8,130	21,000	16,800	23,100	16,800	13,700	10,100	10,100	13,600
18	7,700	12,100	23,000	8,100	19,700	21,600	22,500	17,300	13,300	10,300	9,930	13,400
19	7,750	11,500	22,000	7,930	19,300	20,700	24,200	17,600	13,100	10,000	10,100	13,500
20	7,700	11,300	21,500	7,940	18,400	18,600	25,000	17,900	12,800	9,830	10,000	13,500
21	7,590	20,000	20,900	8,800	17,800	16,800	25,100	19,000	12,900	9,870	10,100	13,000
22	7,670	24,500	20,400	22,000	16,900	16,900	24,600	20,000	12,800	10,200	10,100	12,500
23	7,790	21,900	20,100	24,900	16,000	16,600	24,100	21,000	12,500	10,000	10,100	12,100
24	7,940	19,000	20,100	24,900	14,800	15,700	24,100	21,500	12,500	10,200	10,000	12,100
25	7,910	16,900	19,800	24,400	14,300	15,900	25,600	22,100	11,900	10,100	10,200	12,000
26	7,830	17,000	19,200	24,900	14,200	15,500	25,700	22,100	11,700	9,920	10,600	11,800
27	7,780	17,000	18,300	25,200	14,300	15,000	25,700	22,000	11,400	9,780	10,800	11,700
28	7,820	16,800	18,000	25,400	14,000	14,300	25,700	21,300	11,400	9,710	10,900	11,500
29	7,670	17,000	17,500	25,600	- - - -	13,500	25,700	20,800	11,200	9,820	10,900	11,200
30	7,540	20,400	16,800	26,300	- - - -	13,600	25,300	20,000	11,100	9,950	11,000	11,300
31	7,560	- - - -	15,600	27,100	- - - -	13,100	- - - -	19,400	- - - -	10,100	10,900	- - - -
Total	237,810	374,670	698,600	462,830	607,700	444,110	650,200	610,600	436,600	314,030	319,500	366,000
Mean	7,671	12,490	22,540	14,930	21,700	14,330	21,670	19,700	14,550	10,130	10,310	12,200
Max	7,940	24,500	26,500	27,100	27,800	21,600	25,700	25,100	19,500	10,900	11,000	13,700
Min	7,310	7,790	15,600	7,930	14,000	9,710	13,500	15,000	11,100	9,710	9,930	10,800
Ac-ft	471,700	743,100	1,386,000	918,000	1,205,000	880,900	1,290,000	1,211,000	866,000	622,900	633,700	726,000

Cal yr 1966: Total 4,433,130 Mean 12.150 Max 27,300 Min 5,920 Ac-ft 8,793,000
Wtr yr 1967: Total 5,522,650 Mean 15.130 Max 27,800 Min 7,310 Ac-ft 10,950,000

SACRAMENTO RIVER BASIN

11-3814. LITTLE LAST CHANCE CREEK NEAR CHILCOOT, CALIF.

LOCATION.--Lat 39°52'00", long 120°10'05", in N½NE¼ sec.10, T.23 N., R.16 E., on left bank 300 ft downstream from highway bridge, 0.9 mile downstream from unnamed tributary, 4.5 miles north of Vinton, and 5.0 miles north of Chilcoot.

DRAINAGE AREA.--84.2 sq mi.

RECORDS AVAILABLE.--October 1958 to September 1967.

GAGE.--Digital water-stage recorder. Altitude of gage is 5,140 ft (from topographic map). Prior to Aug. 1, 1967, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--9 years, 22.1 cfs (16,000 acre-ft per year).

EXTREMES.--Maximum discharge during year, 544 cfs May 23 (gage height, 5.50 ft); minimum daily, 1.9 cfs for several days in October.

1958-67: Maximum discharge, 784 cfs Feb. 8, 1960 (gage height, 5.58 ft), from rating curve extended above 310 cfs; no flow Oct. 23, 1959, July 24-27, 29, Aug. 4, 1961.

REMARKS.--Flow regulated by Frenchman Reservoir beginning Nov. 7, 1961 (usable capacity, 53,580 acre-ft (revised)).

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

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.3	2.1	3.4	2.5	5.2	4.5	5.2	62	283	52	44	63
2	1.9	2.3	3.6	2.5	4.3	4.8	4.5	65	259	46	50	52
3	1.9	2.3	3.7	2.5	4.3	4.8	4.5	75	239	40	60	50
4	1.9	2.3	3.4	2.5	4.1	4.3	4.3	90	223	34	62	50
5	1.9	2.3	4.5	2.5	4.1	4.1	4.3	116	216	30	65	35
6	1.9	2.5	3.6	2.5	4.1	4.1	4.3	130	213	27	81	25
7	1.9	2.5	3.3	2.5	4.1	4.1	4.5	159	206	24	93	24
8	1.9	2.5	3.2	2.5	4.1	4.1	4.8	205	198	22	95	24
9	1.9	2.3	3.1	2.5	4.1	4.8	5.5	264	196	19	124	24
10	1.9	2.3	3.2	2.8	4.1	5.2	5.8	298	198	18	124	25
11	1.9	2.3	3.2	2.7	4.1	4.8	6.2	291	193	16	124	25
12	1.9	2.3	3.2	2.7	4.8	5.5	6.2	288	216	19	121	25
13	1.9	2.3	3.3	2.7	5.8	5.5	6.9	267	244	16	121	25
14	1.9	2.3	3.3	2.7	5.8	4.1	7.7	257	235	21	121	25
15	1.9	2.3	3.2	2.7	5.2	4.0	7.3	271	223	25	121	25
16	1.9	2.9	3.2	2.7	4.3	24	6.9	298	211	31	121	31
17	1.9	2.3	3.1	2.6	4.3	22	7.3	363	196	35	121	41
18	1.9	2.4	3.1	2.7	4.3	15	7.3	413	183	32	121	41
19	1.9	2.3	2.9	2.7	4.3	12	7.7	453	172	32	121	31
20	1.9	4.5	2.9	2.8	4.1	11	12	476	164	35	90	25
21	1.9	3.0	2.9	3.7	4.0	11	20	490	152	35	62	25
22	1.9	2.2	2.5	3.8	3.8	10	28	514	136	35	69	15
23	1.9	2.0	2.5	4.0	3.8	10	35	524	124	35	75	8.2
24	1.9	2.0	2.5	3.8	3.8	9.1	43	509	108	35	90	8.2
25	2.1	2.0	2.5	3.6	3.8	8.2	47	481	95	35	102	8.6
26	2.1	2.0	2.5	3.6	3.7	7.3	50	444	86	35	102	6.2
27	2.1	2.0	2.5	3.7	3.8	6.9	56	409	77	35	102	4.3
28	2.1	3.5	2.5	4.1	4.1	6.9	58	379	69	37	102	4.3
29	2.1	3.0	2.5	11	-----	6.5	60	343	63	39	86	4.3
30	2.1	2.5	2.5	7.7	-----	5.8	62	308	56	43	77	4.3
31	2.1	-----	2.5	6.2	-----	5.5	-----	292	-----	44	77	-----
Total	60.7	73.5	94.3	107.5	120.3	239.9	582.2	9534	5234	981	2924	754.4
Mean	1.96	2.45	3.04	3.47	4.30	7.74	19.4	308	174	31.6	94.3	25.1
Max	2.3	4.5	4.5	11	5.8	24	62	524	283	52	124	63
Min	1.9	2.0	2.5	2.5	3.7	4.0	4.3	62	56	16	44	4.3
Ac-ft	120	146	187	213	239	476	1150	18910	10380	1950	5800	1500

Cal yr 1966: Total 7143.9 Mean 19.6 Max 150 Min 1.0 Ac-ft 14170
Wtr yr 1967: Total 20705.8 Mean 56.7 Max 524 Min 1.9 Ac-ft 41070

LOCATION (revised).--Lat 39°52'00", long 120°27'20", in NW¼NW¼ sec.7, T.23 N., R.14 E., on left bank 500 ft upstream from small tributary, 1.4 miles downstream from Grizzly Valley Dam, 4.3 miles upstream from mouth, and 4.5 miles north of Portola.

RECORDS AVAILABLE.--October 1925 to September 1932, October 1950 to September 1953, June 1954 to September 1967. Prior to October 1952, published as Grizzly Creek near Portola.

GAGE.--Graphic water-stage recorder and concrete control. Altitude of gage is 5,320 ft (from topographic map).
Oct. 26, 1925, to Sept. 30, 1932, at datum 2.04 ft higher.

AVERAGE DISCHARGE.--22 years (1926-32, 1951-66, prior to regulation by Lake Davis), 38.2 cfs (27,660 acre-ft per year).

EXTREMES.--Maximum discharge during year, 89 cfs Nov. 21 (gage height, 2.86 ft); minimum daily, 0.1 cfs on many days in October and November.

1925-32, 1950-53, 1954-67: Maximum discharge, 4,080 cfs Feb. 1, 1963 (gage height, 8.03-ft), from rating curve extended above 600 cfs on basis of slope-area measurement of maximum flow; maximum gage height, 9.54 ft, present datum Mar. 26, 1928; no flow Jan. 22 or 23, 1962.

REMARKS.--Flow regulated by Lake Davis completed in December 1966 (usable capacity, 84,050 acre-ft). Records of water temperatures for the water year 1967 are published in Part 2 of this report. Diversions for irrigation of about 400 acres above station.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.10	0.10	1.2	2.4	5.5	5.5	5.5	5.5	9.8	5.1	9.8	0.50
2	.10	.10	7.7	2.4	5.5	5.5	5.5	5.9	7.2	4.0	9.8	.50
3	.10	.10	24	3.1	5.5	5.5	5.5	6.3	6.3	4.0	9.8	.50
4	.10	.10	24	4.4	5.5	5.1	5.5	6.8	6.3	4.0	9.3	.60
5	.20	.10	27	4.4	5.5	5.1	5.5	7.7	7.7	4.0	7.0	.60
6	.20	.30	14	4.4	5.5	5.1	5.5	8.2	7.2	4.0	7.0	.50
7	.20	.20	6.6	4.4	5.5	5.1	5.5	10	6.3	4.0	3.3	.50
8	.20	.20	6.0	4.4	5.5	5.1	5.9	13	5.5	4.0	.60	.50
9	.10	.20	9.7	4.4	5.5	5.1	5.9	14	5.9	4.0	2.4	.50
10	.20	.10	10	4.4	5.5	5.1	5.9	12	5.9	4.0	4.6	.50
11	.20	.10	10	4.4	5.5	5.1	5.5	9.8	6.3	4.0	2.4	.50
12	.10	.20	7.9	4.4	6.3	5.1	5.9	9.2	7.2	2.9	8.7	.50
13	.10	.20	.60	4.4	6.8	5.1	6.3	8.7	7.2	4.0	8.2	2.3
14	.20	.20	.50	4.4	6.3	5.1	6.3	9.8	6.8	3.7	9.2	7.7
15	.20	1.0	.50	4.4	5.9	5.1	5.9	11	5.9	9.4	9.2	7.7
16	.20	2.6	.50	4.4	5.9	12	5.9	12	5.9	4.4	9.2	7.7
17	.20	2.2	.50	4.4	5.9	13	5.9	14	5.5	4.0	9.2	7.7
18	.20	1.6	.50	4.4	5.9	10	5.9	13	5.5	5.2	9.2	7.7
19	.10	.40	.50	4.4	5.9	8.2	5.9	13	5.1	4.0	9.2	7.7
20	.10	11	1.1	4.4	5.9	7.7	5.9	13	5.1	5.1	9.2	7.7
21	.10	25	3.7	17	5.5	8.2	5.5	13	6.3	10	4.3	7.7
22	.10	20	2.0	36	5.1	8.2	5.5	13	7.7	10	.50	7.7
23	.10	13	2.0	22	5.1	8.2	5.5	14	7.7	10	.50	7.7
24	.10	8.0	2.0	9.8	5.1	7.7	5.5	14	7.2	9.8	.50	7.7
25	.10	6.0	2.2	8.2	5.1	7.2	5.5	13	7.2	9.8	.50	6.3
26	.10	6.0	2.2	6.8	5.1	6.8	5.5	12	7.2	9.8	.50	4.7
27	.10	6.0	2.2	5.1	5.1	6.8	5.5	12	7.2	9.8	.50	4.7
28	.10	11	2.4	5.1	5.1	6.8	5.5	11	7.2	9.8	.50	4.7
29	.10	27	2.4	8.2	- - - -	6.3	5.5	11	7.2	9.8	.50	5.6
30	.10	21	2.4	6.3	- - - -	6.3	5.5	10	7.2	9.8	.50	4.7
31	.10	- - - -	2.4	5.5	- - - -	5.9	- - - -	12	- - - -	9.8	.50	- - - -
Total	4.20	164.00	178.70	212.7	156.5	207.00	170.6	337.9	200.7	196.2	155.60	123.90
Mean	0.14	5.47	5.76	6.86	5.58	6.68	5.69	10.9	6.69	6.33	5.02	4.13
Max	0.20	27	27	36	6.8	13	6.3	14	9.8	10	9.8	7.7
Min	0.10	0.10	0.50	2.4	5.1	5.5	5.5	5.5	5.1	2.9	0.50	0.50
Ac-ft	8.3	325	354	422	310	411	338	670	399	389	309	246

Cal yr 1966: Total	7.688.0	Mean	21.1	Max	354	Min	0.10	Ac-ft	15,250
Wtr yr 1967: Total	2.108.0	Mean	5.78	Max	36	Min	0.10	Ac-ft	4,180

SACRAMENTO RIVER BASIN

11-3925. MIDDLE FORK FEATHER RIVER NEAR CLIO, CALIF.

LOCATION.--Lat 39°45'10", long 120°35'40", in SE $\frac{1}{4}$ sec.23, T.22 N., R.12 E., on left bank 0.6 mile upstream from Frazier Creek, 1.0 mile northwest of Clio, and 2.2 miles southeast of Blairsden.

DRAINAGE AREA.--686 sq mi.

RECORDS AVAILABLE.--October 1925 to September 1967.

GAGE.--Graphic water-stage recorder. Altitude of gage is 4,380 ft (from topographic map). Prior to July 29, 1953, at site 0.5 mile downstream at different datum.

AVERAGE DISCHARGE.--42 years, 280 cfs (202,700 acre-ft per year).

EXTREMES.--Maximum discharge during year, 9,740 cfs Mar. 18 (gage height, 14.20 ft); minimum daily, 16 cfs Oct. 1-7.
1925-67: Maximum discharge, 14,500 cfs Feb. 1, 1963 (gage height, 16.19 ft); minimum, 4.3 cfs Sept. 5, 1934.

REMARKS.--Records good. Diversions for irrigation of about 40,000 acres above station, of which 14,500 acres receive supplemental water of about 7,000 acre-ft annually from Little Truckee River. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	16	28	431	97	3,230	487	830	453	1,270	377	69	48
2	16	29	745	95	2,340	498	740	448	1,280	350	68	50
3	16	29	696	97	1,690	481	670	455	1,230	324	67	49
4	16	31	759	96	1,300	413	590	461	1,110	294	65	55
5	16	31	1,280	100	1,040	377	530	492	1,160	269	62	50
6	16	53	656	92	340	373	500	542	1,060	246	60	50
7	16	48	680	90	748	366	480	648	912	226	59	48
8	17	43	776	80	696	360	540	796	872	213	57	46
9	17	43	578	87	662	360	530	961	832	202	55	46
10	17	43	519	90	645	375	485	1,120	816	188	50	46
11	17	44	440	90	642	384	470	1,200	760	179	48	48
12	17	43	386	96	700	342	460	1,340	836	171	44	50
13	17	43	364	100	868	286	464	1,240	938	163	43	51
14	18	72	331	104	1,050	305	487	1,120	943	153	43	51
15	19	133	294	105	868	346	464	1,070	974	141	42	51
16	18	202	299	106	688	1,930	440	1,100	984	141	41	50
17	19	80	280	104	614	3,620	450	1,200	966	135	40	52
18	20	72	236	110	610	9,080	501	1,260	902	122	40	62
19	20	143	194	114	592	7,050	527	1,340	856	109	40	60
20	20	389	172	290	509	3,660	572	1,480	800	102	40	63
21	20	191	162	1,980	448	2,680	558	1,630	712	97	40	67
22	20	163	137	1,290	435	2,090	542	1,680	656	92	42	65
23	20	131	146	2,710	425	1,800	533	1,700	610	91	45	63
24	20	126	142	2,290	430	1,670	521	1,720	565	89	50	64
25	21	111	132	1,340	453	1,510	512	1,700	549	86	55	68
26	23	98	120	980	468	1,250	504	1,650	539	83	56	69
27	24	85	115	744	466	1,020	492	1,550	509	80	50	68
28	25	226	106	1,020	471	930	492	1,400	474	77	45	66
29	26	299	106	2,930	---	840	484	1,240	432	76	44	64
30	27	264	95	5,040	---	850	487	1,140	401	73	45	60
31	28	---	95	4,730	---	880	---	1,220	---	71	47	---
Total	600	3,299	11,471	27,097	23,928	46,613	15,855	35,356	24,948	5,020	1,551	1,680
Mean	19.4	110	370	874	855	1,504	528	1,141	832	162	50.0	56.0
Max	28	389	1,280	5,040	3,230	9,080	830	1,720	1,280	377	69	69
Min	16	28	95	80	425	286	440	448	401	71	40	46
Ac-ft	1,190	6,540	22,750	53,750	47,460	92,460	31,450	70,130	49,480	9,960	3,080	3,330

Cal yr 1966: Total 62,059.5 Mean 170 Max 2,080 Min 9.5 Ac-ft 123,100
Wtr yr 1967: Total 197,417.0 Mean 541 Max 9,080 Min 16.0 Ac-ft 391,600

Peak discharge (base, 850 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-02	2100	7.77	1,340	1-30	1800	12.70	6,620
12-05	0200	8.71	1,930	3-18	1200	14.20	9,740
1-21	1500	10.25	3,230	5-23	2200	8.24	1,820
1-23	1900	10.03	3,010				

11-3945. MIDDLE FORK FEATHER RIVER NEAR MERRIMAC, CALIF.

LOCATION.--Lat 39°42'30", long 121°16'10", in NW¼NE¼ sec.2, T.21 N., R.6 E., on left bank 400 ft downstream from bridge on Milsap Bar Road, 500 ft downstream from Little North Fork, 4.5 miles southeast of Merrimac, and 20 miles northeast of Oroville.

DRAINAGE AREA.--1,062 sq mi.

RECORDS AVAILABLE.--October 1951 to September 1967.

GAGE.--Digital water-stage recorder. Altitude of gage is 1,560 ft (from topographic map). Prior to Jan. 21, 1965, graphic water-stage recorder on right bank at same site and datum.

AVERAGE DISCHARGE.--16 years, 1,411 cfs (1,022,000 acre-ft per year); median of yearly mean discharges, 1,200 cfs (869,000 acre-ft per year).

EXTREMES.--Maximum discharge during year, 14,900 cfs Jan. 29 (gage height, 14.14 ft); minimum daily, 107 cfs Sept. 7, 8, 10.

1951-67: Maximum discharge, 86,200 cfs Dec. 22, 1964 (gage height, 26.5 ft, from floodmarks, present site), from rating curve extended above 19,000 cfs on basis of slope-area measurement of maximum flow; minimum, 92 cfs Jan. 2, 1960.

REMARKS.--Records good. Diversions above station for irrigation of about 1,000 acres between stations near Clio and near Merrimac. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

REVISIONS (water year).--1965 report: 1960.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	109	144	2,430	578	6,810	1,450	2,560	1,580	4,510	2,080	437	257
2	113	144	3,820	564	5,360	1,470	2,370	1,600	4,100	1,930	425	257
3	116	144	4,150	550	4,390	1,480	2,240	1,720	3,910	1,810	418	257
4	116	146	2,820	545	3,650	1,400	2,150	1,910	3,980	1,660	403	257
5	116	148	5,150	552	3,220	1,290	2,120	2,090	4,130	1,530	389	271
6	117	250	3,620	517	2,830	1,250	2,210	2,250	4,190	1,420	377	272
7	121	280	2,700	499	2,530	1,240	2,220	2,850	4,100	1,330	364	263
8	123	223	2,390	503	2,360	1,230	2,140	3,770	4,120	1,240	359	256
9	123	190	1,990	485	2,220	1,260	2,150	4,510	4,210	1,160	350	249
10	123	181	1,870	479	2,170	1,410	2,150	4,740	4,260	1,090	338	245
11	120	185	1,760	482	2,110	1,670	2,040	4,100	4,130	1,040	331	245
12	121	282	1,580	482	2,170	1,530	1,920	3,920	4,120	982	325	245
13	120	228	1,550	483	2,440	1,380	1,910	3,830	4,250	926	315	245
14	120	219	1,650	486	2,710	1,320	1,960	3,890	4,040	882	307	245
15	121	823	1,440	491	2,450	1,300	1,920	4,440	4,090	841	303	244
16	126	2,290	1,320	499	2,190	7,260	1,800	5,230	4,190	801	294	243
17	130	717	1,250	494	1,960	9,250	1,820	5,850	4,280	796	286	243
18	130	476	1,160	481	1,900	10,800	1,840	6,190	4,330	739	285	252
19	130	664	1,060	478	1,830	9,760	1,880	6,370	4,360	693	278	280
20	132	3,550	991	743	1,730	6,650	1,850	6,820	4,340	659	274	263
21	134	2,000	937	6,530	1,570	5,460	1,840	7,300	3,930	633	269	253
22	134	1,280	890	5,510	1,530	5,050	1,790	7,600	3,560	603	267	255
23	135	848	830	4,100	1,490	5,450	1,780	7,560	3,250	581	265	257
24	137	673	829	4,240	1,480	4,890	1,780	7,420	3,050	556	265	256
25	134	577	779	3,050	1,490	4,300	1,740	7,030	2,920	533	296	253
26	134	514	744	2,310	1,460	3,780	1,720	6,600	2,820	518	317	250
27	132	478	693	2,340	1,440	3,360	1,750	6,410	2,640	502	306	249
28	138	1,070	653	4,110	1,420	3,170	1,720	6,130	2,500	487	284	249
29	142	4,440	643	11,500	-----	2,940	1,650	5,770	2,380	481	271	248
30	144	2,210	628	9,770	-----	2,770	1,610	5,390	2,230	472	264	241
31	144	-----	594	10,000	-----	2,780	-----	5,030	-----	453	261	-----
TOTAL	3,935	25,374	52,921	73,851	68,910	108,350	58,630	149,900	112,920	29,428	9,923	7,600
MEAN	127	846	1,707	2,382	2,461	3,495	1,954	4,835	3,764	949	320	253
MAX	144	4,440	5,150	11,500	6,810	10,800	2,560	7,600	4,510	2,080	437	280
MIN	109	144	594	478	1,420	1,230	1,610	1,580	2,230	453	261	241
AC-FT	7,800	50,330	105,000	146,500	136,700	214,900	116,300	297,300	224,000	58,370	19,680	15,070

CAL YR 1966: TOTAL 338,216

MEAN 927

MAX 5,150

MIN 107

AC-FT 670,800

WAT YR 1967: TOTAL 701,742

MEAN 1,923

MAX 11,500

MIN 109

AC-FT 1,392,000

Peak discharge (base, 7,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
1-21	2015	13.23	12,300	3-18	1745	13.19	12,200
1-29	1345	14.14	14,900	5-23	0015	11.56	8,740

SACRAMENTO RIVER BASIN

11-3946.2. FALL RIVER NEAR FEATHER FALLS, CALIF.

LOCATION.--Lat 39°40'00", long 121°08'00", in NW $\frac{1}{4}$ sec.19, T.21 N., R.8 E., on right bank 0.5 mile downstream from Coyote Creek and 8 miles northeast of Feather Falls.

DRAINAGE AREA.--9.89 sq mi.

RECORDS AVAILABLE.--July 1963 to September 1967.

GAGE.--Graphic water-stage recorder. Altitude of gage is 4,000 ft (from topographic map). Prior to July 6, 1967, digital water-stage recorder at same site and datum.

EXTREMES.--Maximum discharge during year, 572 cfs Jan. 29 (gage height, 4.53 ft); minimum daily, 1.7 cfs Oct. 10, Nov. 3.

1963-67: Maximum discharge, 3,770 cfs Dec. 22, 1964 (gage height, 10.00 ft), from rating curve extended above 300 cfs on basis of slope-area measurement of maximum flow; minimum daily, 1.7 cfs Oct. 10, Nov. 3, 1966.

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

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1.9	1.9	130	22	200	35	53	29	135	30	7.0	3.7
2	2.0	1.9	233	21	151	34	48	32	121	27	7.0	3.7
3	2.0	1.7	219	20	122	34	46	37	113	25	6.7	3.7
4	2.0	1.8	134	19	106	32	45	44	114	23	6.7	3.5
5	2.0	1.9	199	19	94	31	43	48	118	22	6.3	3.5
6	2.0	5.2	154	17	86	30	41	56	119	21	6.3	3.5
7	2.0	3.9	116	17	79	31	41	79	121	20	6.3	3.5
8	2.0	3.0	89	17	73	32	43	109	121	19	6.0	3.5
9	2.0	2.4	74	16	69	34	47	137	121	18	6.0	3.5
10	1.7	2.5	75	16	67	38	47	150	122	17	6.0	3.5
11	1.8	2.9	64	16	65	38	44	119	116	16	5.8	3.5
12	1.9	5.0	58	16	68	36	43	105	124	15	5.8	3.5
13	1.9	3.4	59	15	72	34	43	106	117	14	5.5	3.3
14	2.0	4.7	56	15	71	32	42	118	108	14	5.5	3.3
15	2.0	29	51	15	66	35	40	148	103	14	5.3	3.3
16	2.1	61	49	15	62	319	38	190	101	13	5.3	3.3
17	2.1	16	45	14	58	307	37	222	98	13	5.0	3.3
18	2.0	12	42	14	56	211	38	233	95	12	5.0	3.3
19	2.0	32	40	14	53	150	36	243	91	12	5.0	3.2
20	2.1	109	39	22	49	126	33	262	82	11	4.7	3.0
21	2.1	49	36	179	46	128	32	280	74	11	4.5	3.0
22	2.0	30	34	145	44	126	31	282	66	10	4.5	3.0
23	2.0	22	32	89	43	160	32	278	60	9.9	4.5	3.0
24	1.9	18	31	73	42	135	30	268	55	9.5	4.2	3.0
25	1.9	16	30	59	40	110	29	246	50	9.5	4.2	3.0
26	1.9	14	28	54	37	94	28	226	46	9.2	4.2	2.6
27	1.9	13	26	67	36	82	30	211	42	8.8	4.2	2.4
28	1.9	77	25	137	35	70	27	194	38	8.8	4.0	2.6
29	1.9	239	24	442	-----	66	27	182	35	8.1	4.0	2.6
30	1.9	101	23	369	-----	62	27	167	32	8.1	3.7	2.6
31	1.9	-----	23	293	-----	59	-----	153	-----	7.4	3.7	-----
TOTAL	60.8	880.2	2,238	2,247	1,990	2,711	1,141	4,954	2,738	456.3	162.9	96.4
MEAN	1.96	29.3	72.2	72.5	71.1	87.5	38.0	160	91.3	14.7	5.25	3.21
MAX	2.1	239	233	442	200	319	53	282	135	30	7.0	3.7
MIN	1.7	1.7	23	14	35	30	27	29	32	7.4	3.7	2.4
AC-FT	121	1,750	4,440	4,460	3,950	5,380	2,260	9,830	5,430	905	323	191

CAL YR 1966: TOTAL 11,824.2 MEAN 32.4 MAX 276 MIN 1.7 AC-FT 23,450
WAT YR 1967: TOTAL 19,675.6 MEAN 53.9 MAX 442 MIN 1.7 AC-FT 39,030

Peak discharge (base, 150 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-16	0200	3.28	192	1-29	0745	4.53	572
11-20	0245	3.36	211	3-16	1715	4.22	458
11-29	0145	3.85	352	5-09	2330	3.28	180
12-02	2000	4.22	476	5-21	1715	3.93	324
1-21	1300	3.89	352				

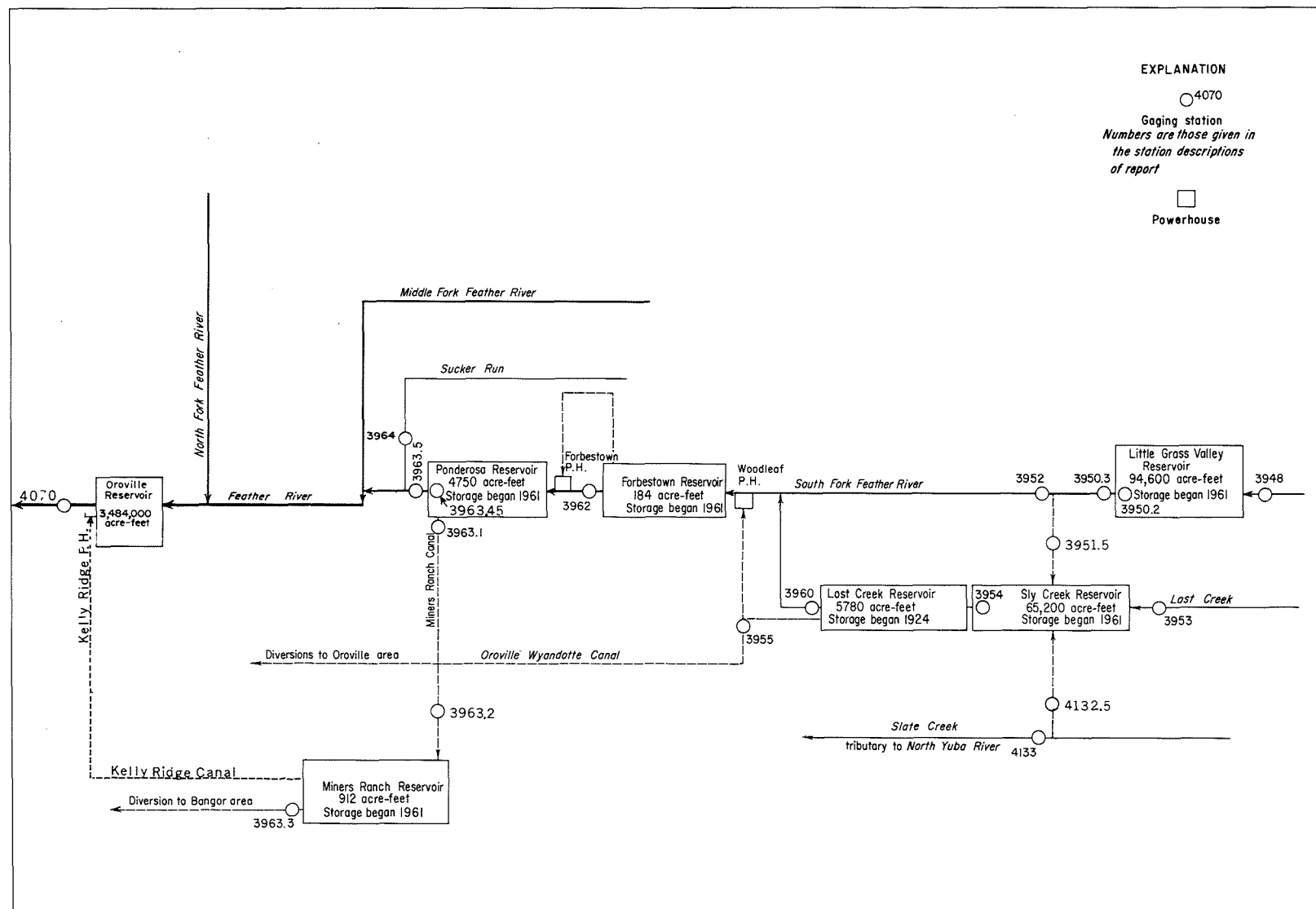


Figure 8.-- Schematic diagram showing diversions and storage in South Fork Feather River basin.

SACRAMENTO RIVER BASIN

11-3948. SOUTH FORK FEATHER RIVER ABOVE LITTLE GRASS VALLEY RESERVOIR, CALIF.

LOCATION.--Lat 39°45'07", long 120°57'26", in NW¼SE¼ sec.22, T.22 N., R.9 E., on right bank 0.5 mile downstream from unnamed tributary, 4.5 miles upstream from Little Grass Valley Dam, and 5 miles north of LaPorte.

DRAINAGE AREA.--8.09 sq mi.

RECORDS AVAILABLE.--October 1960 to September 1967.

GAGE.--Graphic water-stage recorder. Altitude of gage is 5,080 ft (from topographic map).

AVERAGE DISCHARGE.--7 years, 29.2 cfs (21,140 acre-ft per year).

EXTREMES.--Maximum discharge during year, 369 cfs Jan. 29 (gage height, 3.53 ft); maximum gage height, 3.89 ft Jan. 22 (backwater from ice); minimum daily discharge, 0.1 cfs Oct. 1-19.

1960-67: Maximum discharge, 4,160 cfs Jan. 31, 1963 (gage height, 7.12 ft), from rating curve extended above 110 cfs on basis of slope-area measurement at gage height 5.47 ft; minimum daily, 0.1 cfs for several days in each year.

REMARKS.--Records good. No storage or diversion above station. See schematic diagram for South Fork Feather River basin.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.10	0.20	63	11	97	18	26	11	113	72	2.0	0.30
2	.10	.20	57	9.9	76	18	24	13	97	63	1.8	.30
3	.10	.20	44	9.9	65	18	23	14	93	55	1.8	.30
4	.10	.20	38	9.2	55	17	22	15	102	42	1.6	.40
5	.10	.20	61	9.2	48	16	21	13	110	33	1.5	.40
6	.10	.30	42	8.5	40	16	21	23	120	30	1.4	.30
7	.10	.40	34	8.5	39	16	20	34	134	26	1.3	.30
8	.10	.40	29	7.8	34	16	20	53	152	24	1.3	.30
9	.10	.40	25	7.8	33	16	18	70	167	21	1.4	.30
10	.10	.50	25	7.8	32	20	18	61	174	18	1.3	.30
11	.10	.60	24	7.8	30	20	16	50	174	16	1.2	.30
12	.10	1.3	23	7.2	33	17	16	44	171	14	1.2	.30
13	.10	1.3	24	7.2	34	16	16	48	161	13	1.2	.30
14	.10	2.3	24	7.2	33	15	15	57	152	11	.80	.30
15	.10	13	22	7.8	33	16	15	81	164	11	.70	.20
16	.10	27	21	7.8	30	194	14	113	184	9.2	.70	.20
17	.10	7.2	20	9.2	28	203	14	155	203	9.5	.70	.20
18	.10	4.9	18	9.2	27	134	14	174	233	7.2	.60	.30
19	.10	17	17	9.5	26	95	13	190	229	6.2	.50	.20
20	.20	72	17	23	25	81	13	226	204	5.3	.50	.20
21	.20	25	16	135	24	79	12	263	180	4.9	.50	.20
22	.20	14	16	48	23	74	12	283	155	4.5	.50	.20
23	.20	11	15	24	22	88	12	292	137	4.1	.50	.20
24	.20	8.5	15	17	22	70	12	292	134	3.7	.50	.20
25	.20	7.2	14	15	21	61	12	263	129	3.3	.60	.20
26	.20	6.7	14	13	20	53	12	244	113	3.0	.60	.20
27	.20	6.2	14	24	18	46	12	233	107	3.0	.60	.20
28	.20	7.2	14	51	18	42	11	222	100	2.7	.50	.20
29	.20	169	12	254	-----	36	11	219	93	2.7	.50	.20
30	.20	65	11	180	-----	33	11	194	83	2.4	.40	.20
31	.20	-----	11	134	-----	31	-----	161	-----	2.2	.40	-----
Total	4.30	539.20	779	1,079.5	986	1,580	476	4,122	4,383	526.9	29.10	7.70
Mean	0.14	18.0	25.1	34.8	35.2	51.0	15.9	133	146	17.0	0.94	0.26
Max	0.20	169	63	254	97	208	26	292	233	72	2.0	0.40
Min	0.10	0.20	11	7.2	19	15	11	11	83	2.2	0.40	0.20
Ac-ft	8.5	1,070	1,550	2,140	1,960	3,130	944	8,180	8,690	1,050	53	15

Cal yr 1966: Total 7,706.4 Mean 21.1 Max 169 Min 0.10 Ac-ft 15,290
Wtr yr 1967: Total 14,512.7 Mean 39.8 Max 292 Min 0.10 Ac-ft 28,790

Peak discharge (base, 140 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-20	0300	3.09	194	3-16	2300	3.33	283
11-29	0200	3.27	260	5-23	1800	3.48	346
1-21	1800	-----	248	6-18	1730	3.44	329
1-29	0800	3.53	369				

11-3950.2. LITTLE GRASS VALLEY RESERVOIR NEAR LAPORTE, CALIF.

LOCATION.--Lat 39°43'25", long 121°01'10", in W $\frac{1}{2}$ sec.31, T.22 N., R.9 E., on right bank 300 ft upstream from dam on South Fork Feather River, 3.3 miles northwest of LaPorte.

DRAINAGE AREA.--25.8 sq mi.

RECORDS AVAILABLE.--October 1961 to September 1967. Month-end elevation and contents only October 1961 to October 1962.

GAGE.--Graphic water-stage recorder. Datum of gage is at mean sea level (levels by Oroville-Wyandotte Irrigation District). Prior to Nov. 1, 1962, in valve chamber in dam at same datum.

EXTREMES.--Maximum contents during year, 93,200 acre-ft May 23 (elevation, 5,046.1 ft); minimum, 49,500 acre-ft Nov. 5 (elevation, 5,014.4 ft).

1961-67: Maximum contents, 96,100 acre-ft Apr. 29, 1965 (elevation, 5,047.9 ft); minimum since reservoir first filled, that of Nov. 5, 1966.

REMARKS.--Reservoir is formed by rockfill dam. Storage began in October 1961. Total capacity, 94,700 acre-ft between elevations 4,876 (invert of release valve) and 5,047 ft (top of spillway gates), all of which is usable. Water is released down South Fork Feather River for power development and irrigation downstream. Records, including extremes, represent contents at 2400 hours. See schematic diagram for South Fork Feather River basin.

CAPACITY TABLE (ELEVATION, IN FEET, AND CONTENTS, IN ACRE-FT)

5,000	34,600
5,010	44,400
5,020	55,900
5,030	68,900
5,040	83,500
5,048	96,300

CONTENTS, IN THOUSANDS OF ACRE-Feet, AT 2400 HOURS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	56.5	49.6	56.0	63.9	74.3	75.3	75.9	79.0	90.9	92.2	86.0	77.8
2	56.3	49.6	57.2	63.9	74.9	75.3	75.7	79.0	90.3	92.4	85.5	76.9
3	55.8	49.6	57.7	64.1	75.3	75.3	75.7	79.0	89.8	92.4	85.2	76.0
4	55.4	49.6	58.5	64.1	75.5	75.3	75.6	79.2	89.2	92.5	84.7	75.3
5	55.1	49.5	59.4	64.1	75.6	75.3	75.7	79.4	89.2	92.5	84.3	74.4
6	54.8	49.7	60.0	64.2	75.6	75.3	75.7	79.5	88.9	92.5	84.0	73.4
7	54.7	49.7	60.4	64.2	75.6	75.3	75.6	79.8	88.7	92.5	83.5	72.7
8	54.4	49.7	60.7	64.2	75.6	75.3	75.6	80.3	89.0	92.7	83.2	72.1
9	54.0	49.7	61.1	64.3	75.6	75.3	75.7	80.9	89.6	92.7	82.9	71.5
10	53.6	49.7	61.3	64.3	75.7	75.6	76.0	81.4	90.3	92.7	82.8	70.8
11	53.2	49.7	61.5	64.3	75.7	75.6	76.2	81.9	90.9	92.8	82.6	70.2
12	52.8	49.7	61.7	64.5	75.7	75.7	76.3	82.3	91.7	92.8	82.3	69.6
13	52.3	49.7	62.0	64.5	75.7	75.7	76.5	82.8	92.2	92.7	82.2	69.0
14	52.0	49.9	62.1	64.5	75.7	75.6	76.6	83.2	92.5	92.5	81.9	68.6
15	51.6	50.5	62.3	64.6	75.6	75.7	76.8	83.8	92.8	92.2	81.7	68.1
16	51.2	50.8	62.5	64.6	75.6	77.1	76.9	84.7	92.8	91.9	81.4	67.5
17	50.8	51.0	62.6	64.6	75.6	77.4	77.4	85.7	92.8	91.5	81.3	66.9
18	50.4	51.0	62.8	64.6	75.6	77.2	77.4	87.0	92.8	91.2	81.1	66.4
19	50.0	51.4	62.9	64.7	75.6	76.9	77.6	88.1	92.8	90.9	80.9	65.9
20	49.9	52.2	63.0	65.2	75.6	76.8	77.8	89.5	92.7	90.4	80.7	65.5
21	49.9	52.6	63.2	66.2	75.6	76.6	77.8	90.9	92.5	90.1	80.4	65.2
22	49.8	52.7	63.2	66.4	75.5	76.5	77.9	92.5	92.4	89.6	80.3	65.0
23	49.8	52.8	63.3	66.5	75.5	76.6	78.1	93.2	92.2	89.3	80.0	64.6
24	49.7	52.8	63.4	66.9	75.5	76.5	78.2	92.5	92.2	89.0	79.8	64.3
25	49.7	52.9	63.4	67.1	75.5	76.3	78.2	91.7	92.2	88.5	79.5	64.1
26	49.7	52.9	63.6	67.3	75.5	76.2	78.4	91.2	92.0	88.2	79.4	63.8
27	49.7	53.0	63.6	67.6	75.5	76.2	78.5	91.2	91.9	88.1	79.1	63.6
28	49.7	53.8	63.7	68.2	75.5	76.0	78.7	91.2	91.9	87.4	79.0	63.3
29	49.7	54.8	63.7	70.5	-----	76.0	78.8	91.2	92.0	87.1	78.8	62.9
30	49.6	55.3	63.8	72.2	-----	76.0	78.8	91.2	92.2	86.8	78.5	62.6
31	49.6	-----	63.9	73.6	-----	76.0	-----	91.2	-----	86.3	78.2	-----
(+)	---	5,019.5	5,026.2	5,033.2	5,034.5	5,034.9	5,036.8	5,044.9	5,045.5	5,041.8	5,036.4	5,025.2
(-)	-7,300.	+5,700	+8,600	+9,700	+1,900	+500	+2,800	+12,400	+1,000	+5,900	+8,100	+15,600
Max	56.5	55.3	63.9	73.6	75.7	77.4	78.8	93.2	92.8	92.8	86.0	77.8
Min	49.6	49.5	56.0	63.9	74.3	75.3	75.6	79.0	88.7	86.3	78.2	62.6

Calendar year 1966..... † 47,100
 Water year 1966-67..... † 45,700

Max 92.7
 Max 93.2

Min 49.5
 Min 49.5

† Elevation, in feet, at end of month.

* Change in contents, in acre-feet.

SACRAMENTO RIVER BASIN

11-3950.3. SOUTH FORK FEATHER RIVER BELOW LITTLE GRASS VALLEY DAM, CALIF.

LOCATION.--Lat 39°43'26", long 121°01'17", in SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec.31, T.22 N., R.9 E., on left bank 0.1 mile downstream from Little Grass Valley Dam, 0.7 mile downstream from Ice Creek, and 3.5 miles northwest of LaPorte.

DRAINAGE AREA.--25.9 sq mi.

RECORDS AVAILABLE.--October 1927 to September 1933 (published as "near LaPorte"), October 1960 to September 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is 4,809.0 ft above mean sea level. Prior to Oct. 1, 1960, at site 0.4 mile 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 mile upstream at datum 4,850.00 ft above mean sea level.

AVERAGE DISCHARGE.--13 years (1927-33, 1960-67), 85.9 cfs (62,190 acre-ft per year), adjusted for storage.

EXTREMES.--Maximum discharge during year, 1,130 cfs May 24 (gage height, 11.26 ft); minimum daily, 5.7 cfs Nov. 2-5, 9-11.

1927-33, 1960-67: Maximum discharge, 4,250 cfs Feb. 1, 1963; minimum, 0.2 cfs Oct. 28-31, Nov. 2, 1961.

REMARKS.--Records good. Flow regulated by Little Grass Valley Reservoir (see sta. no. 3950.2) beginning in October 1961. No diversion above station. See schematic diagram for South Fork Feather River basin.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	178	6.2	11	8.3	11	67	205	9.3	610	71	189	267
2	178	5.7	14	8.3	11	66	173	9.3	605	71	189	394
3	178	5.7	12	8.3	40	64	147	9.3	620	41	189	394
4	178	5.7	9.3	8.3	79	64	127	9.3	645	34	189	394
5	178	5.7	13	8.3	119	61	133	9.3	615	32	189	394
6	114	5.9	10	8.3	131	59	147	9.7	540	22	189	394
7	80	5.9	8.9	8.3	136	58	134	10	363	14	189	309
8	191	5.9	8.6	8.3	131	58	67	11	214	8.6	143	265
9	191	5.7	8.3	8.3	126	59	11	12	196	8.6	98	265
10	191	5.7	8.3	8.3	121	74	11	11	177	8.6	98	265
11	191	5.7	8.3	8.3	115	134	11	9.7	177	11	98	265
12	191	5.9	8.0	8.3	115	150	11	9.7	179	12	98	265
13	189	5.9	8.3	8.3	119	164	11	9.7	220	94	98	262
14	189	6.2	8.3	8.3	124	147	11	10	258	170	98	262
15	189	8.0	8.0	8.3	124	122	10	11	363	169	98	262
16	189	9.3	8.3	8.3	119	319	10	13	494	168	98	262
17	187	6.5	8.0	8.3	112	634	10	13	540	168	98	262
18	187	6.5	7.7	8.3	108	634	10	13	540	182	98	262
19	189	7.7	7.7	8.3	108	535	10	13	540	196	98	262
20	97	13	7.7	8.3	95	442	10	14	535	196	98	196
21	8.3	8.0	7.7	9.7	90	380	9.7	16	535	196	97	122
22	8.3	7.1	8.0	9.3	83	333	9.7	16	434	196	97	132
23	8.3	6.8	8.0	8.9	80	360	9.7	564	327	196	97	132
24	8.3	6.5	8.0	8.9	78	344	9.7	1,120	306	196	97	130
25	8.3	6.5	8.0	8.9	82	312	9.7	1,110	306	196	97	130
26	8.3	6.5	8.0	8.9	78	281	9.7	970	273	196	97	130
27	8.3	6.5	8.3	9.7	74	250	9.3	760	252	196	97	130
28	8.3	11	8.3	11	70	232	9.3	646	189	196	97	130
29	8.3	20	8.3	24	-----	221	9.3	622	90	196	97	130
30	8.3	10	8.3	15	-----	211	9.3	616	71	196	96	130
31	8.3	-----	8.0	12	-----	225	-----	622	-----	195	96	-----
Total	3,546.3	221.7	272.6	292.3	2,678	7,060	1,354.4	7,278.3	11,214	3,830.8	3,712	7,197
Mean	114	7.39	8.79	9.43	95.6	228	45.1	235	374	124	120	240
Max	191	20	14	24	136	634	205	1,120	645	196	189	394
Min	8.3	5.7	7.7	8.3	11	58	9.3	9.3	71	8.6	96	122
Ac-ft	7,030	440	541	580	5,310	14,000	2,690	14,440	22,240	7,600	7,360	14,280
Mean †	4.39	10.3	14.9	16.7	130	236	92.3	436	391	27.6	12.0	22.2
Ac-ft†	270	6,140	9,140	10,280	7,210	14,500	5,490	26,840	23,240	1,700	740	1,320

Calendar year 1966: Total 24,999.3 Mean 68.5 Max 250 Min 5.1 Ac-ft 49,590 Mean † 78.3 Ac-ft † 56,690
 Water year 1966-67: Total 48,657.4 Mean 133 Max 1,120 Min 5.7 Ac-ft 96,510 Mean † 141 Ac-ft † 102,200

† Adjusted for change in contents in Little Grass Valley Reservoir.

Note. For months when inflow to the reservoir was small and other quantities were large, discordant figures of net runoff may appear. Records of evaporation from Little Grass Valley Reservoir are not available.

11-3952. SOUTH FORK FEATHER RIVER BELOW DIVERSION DAM, NEAR STRAWBERRY VALLEY, CALIF.

LOCATION.--Lat 39°38'51", long 121°07'04", in NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.30, T.21 N., R.8 E., on right bank 0.1 mile downstream from diversion dam, 3.1 miles upstream from Rock Creek, and 5.8 miles north of Strawberry Valley.

DRAINAGE AREA.--37.7 sq mi.

RECORDS AVAILABLE.--October 1960 to September 1967.

GAGE.--Graphic water-stage recorder and since Nov. 7, 1962, concrete control. Datum of gage is 3,535.02 ft above mean sea level (levels by Oroville-Wyandotte Irrigation District).

AVERAGE DISCHARGE.--7 years, 140 cfs (101,400 acre-ft per year), adjusted for diversion to South Fork Tunnel.

EXTREMES.--Maximum discharge during year, 1,300 cfs May 24 (gage height, 7.00 ft); minimum daily, 5.2 cfs

Dec. 29, Jan. 8-19.

1960-67: Maximum discharge, 6,330 cfs Jan. 31, 1963 (gage height, 13.21 ft), from rating curve extended above 500 cfs on basis of computation of maximum flow over diversion dam; minimum daily, 0.3 cfs Dec. 25, 1962, to Jan. 2, 1963, Mar. 1-3, 1963.

REMARKS.--Records good. Flow regulated by Little Grass Valley Reservoir (see sta. no. 3950.2). South Fork Diversion Tunnel (maximum capacity about 600 cfs) 500 ft upstream, diverts to Sly Creek Reservoir (see sta. no. 3954); diversion began in November 1961. See schematic diagram for South Fork Feather River basin.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9.8	8.8	5.8	5.4	5.8	5.6	6.5	7.0	237	14	13	13
2	9.8	6.2	6.5	5.4	5.6	5.6	6.5	7.0	225	14	13	14
3	9.8	6.5	6.2	5.4	5.6	5.6	6.5	7.0	225	14	13	14
4	9.8	6.5	6.5	5.4	5.6	5.6	6.2	7.0	254	13	13	14
5	9.8	6.5	6.8	5.4	5.4	5.6	6.2	7.0	236	13	13	14
6	9.8	7.0	6.5	5.4	5.4	5.6	6.2	7.0	183	13	13	14
7	9.1	6.8	6.2	5.4	5.4	5.4	6.2	7.0	80	13	13	14
8	10	6.8	5.8	5.2	5.6	5.4	6.2	7.0	14	13	13	14
9	10	6.8	5.6	5.2	5.6	5.4	6.0	7.0	14	13	13	14
10	10	6.8	5.6	5.2	5.4	5.4	6.0	7.0	14	13	13	14
11	10	6.8	5.6	5.2	5.4	5.6	6.0	7.0	14	13	13	14
12	10	6.8	5.6	5.2	5.6	5.6	6.0	7.0	14	12	13	13
13	10	6.8	5.6	5.2	5.6	5.4	6.0	7.0	14	12	13	13
14	10	6.0	5.6	5.2	5.6	5.4	6.0	7.0	14	13	13	13
15	10	5.6	5.4	5.2	5.6	5.4	6.0	7.0	24	13	13	13
16	11	6.2	5.4	5.2	5.6	265	6.0	7.0	76	13	13	13
17	11	5.8	5.4	5.2	5.6	481	6.0	7.0	116	13	13	13
18	11	5.8	5.4	5.2	5.6	368	6.0	7.0	115	13	13	14
19	11	6.0	5.4	5.2	5.6	199	6.0	9.4	113	13	13	14
20	10	6.2	5.4	5.4	5.6	113	6.0	12	107	13	13	14
21	9.4	6.0	5.6	6.8	5.6	29	6.2	12	153	13	13	14
22	9.1	5.6	5.6	6.2	5.8	7.3	6.2	12	49	13	13	13
23	9.1	5.6	5.6	6.0	5.8	71	6.2	361	14	13	13	13
24	9.1	5.6	5.6	6.0	5.8	26	6.2	1,000	14	13	13	13
25	9.1	5.6	5.4	5.8	5.8	6.8	6.2	960	14	13	13	13
26	9.1	5.6	5.4	5.8	5.6	6.8	6.5	765	14	13	13	13
27	9.1	5.6	5.4	5.8	5.6	6.8	7.0	449	14	13	13	13
28	9.1	5.8	5.2	6.2	5.6	6.8	7.0	316	14	13	13	13
29	9.1	6.0	5.2	6.9	-----	6.8	7.0	274	14	13	13	12
30	9.1	5.6	5.4	6.2	-----	6.8	7.0	259	14	13	13	12
31	9.1	-----	5.4	6.0	-----	6.8	-----	244	-----	13	12	-----
Total	302.3	187.7	176.3	235.4	156.8	1,689.5	188.0	4,799.4	2,403	404	402	402
Mean	9.75	6.26	5.69	7.59	5.60	54.5	6.27	155	80.1	13.0	13.0	13.0
Max	11	3.8	6.8	6.9	5.8	481	7.0	1,000	254	14	13	14
Min	9.1	5.6	5.2	5.2	5.4	5.4	6.0	7.0	14	12	12	13
Ac-ft	600	372	350	467	311	3,350	373	9,520	4,770	801	797	797
Mean †	6,280	2,510	5,870	7,020	8,570	18,030	4,990	15,210	21,460	6,640	6,140	14,000
Ac-ft†	112	48.4	101	122	160	343	90.1	402	441	121	113	249
(†)	6,380	2,880	6,220	7,490	8,980	21,380	5,360	24,730	26,230	7,440	6,940	14,800

Cal yr 1966: Total 2,933.1 Mean 8.04 Max 12 Min 5.2 Ac-ft 5,820 Mean † 106 Ac-ft † 77,000
Wtr yr 1967: Total 11,346.4 Mean 31.1 Max 1,000 Min 5.2 Ac-ft 22,510 Mean † 192 Ac-ft † 139,200

† Diversion from South Fork Feather River to South Fork Diversion Tunnel, in acre-feet.

* Adjusted for diversion to South Fork Diversion Tunnel.

SACRAMENTO RIVER BASIN

11-3953. LOST CREEK ABOVE SLY CREEK RESERVOIR, CALIF.

LOCATION.--Lat 39°37'05", long 121°05'19", in NE¼SW¼ sec.4, T.20 N., R.8 E., on left bank 0.4 mile upstream from French Creek, and 3.8 miles north of Strawberry Valley.

DRAINAGE AREA.--14.1 sq mi.

RECORDS AVAILABLE.--October 1960 to September 1967.

GAGE.--Graphic water-stage recorder. Altitude of gage is 3,570 ft (from topographic map).

AVERAGE DISCHARGE.--7 years, 54.3 cfs (39,310 acre-ft per year).

EXTREMES.--Maximum discharge during year, 1,070 cfs Jan. 29 (gage height, 5.00 ft); minimum daily, 4.1 cfs for many days.

1960-67: Maximum discharge, 5,640 cfs Dec. 22, 1964 (gage heights, 8.48 ft, from floodmarks in gage well, 9.66 ft, outside from floodmarks), from rating curve extended above 250 cfs on basis of slope-area measurements at gage heights 5.97 and 7.87 ft; minimum, 3.2 cfs Oct. 7-10, 1961.

REMARKS.--Records good. No regulation or diversion above station. See schematic diagram for South Fork Feather River basin.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.1	4.4	109	28	255	52	89	45	139	35	17	9.1
2	4.4	4.4	269	27	186	51	82	50	127	32	17	8.7
3	4.6	4.4	215	26	152	51	78	57	118	31	16	9.1
4	4.1	4.4	118	26	130	49	75	68	115	31	14	9.5
5	4.1	4.1	246	26	116	46	74	73	118	31	14	9.5
6	4.4	14	172	24	105	45	73	81	113	30	13	9.1
7	4.4	9.8	127	24	100	45	69	111	111	30	13	8.7
8	4.1	7.3	86	23	92	46	70	152	105	30	12	8.3
9	4.1	6.3	72	23	82	48	69	184	103	29	12	8.3
10	4.1	6.0	78	22	81	55	69	214	98	29	12	8.3
11	4.1	6.6	68	22	81	59	65	158	95	28	12	8.0
12	4.1	11	60	22	94	54	63	139	106	27	12	8.0
13	4.1	8.0	60	22	100	51	65	139	103	26	12	8.0
14	4.1	9.5	60	22	100	48	65	154	91	24	12	8.0
15	4.4	44	53	22	89	53	61	193	85	23	12	7.6
16	4.4	90	50	22	82	546	57	253	81	22	11	7.6
17	4.4	20	46	22	77	424	60	292	78	22	11	7.3
18	4.4	15	45	22	74	275	57	302	74	21	11	7.3
19	4.4	32	44	22	72	212	54	312	70	21	11	7.6
20	4.6	138	43	25	66	191	51	336	65	20	10	7.6
21	4.6	60	41	336	63	193	51	357	61	20	10	7.6
22	4.6	37	39	181	61	182	50	350	57	19	10	7.6
23	4.6	25	37	98	60	268	50	328	52	19	10	7.3
24	4.6	20	36	82	59	214	48	308	50	19	10	7.3
25	4.4	17	34	65	58	176	48	268	46	19	10	7.3
26	4.4	15	33	61	55	151	46	237	44	18	11	7.3
27	4.4	14	32	76	54	136	48	212	41	18	10	7.3
28	4.4	92	31	173	53	127	44	193	39	18	10	7.3
29	4.4	241	31	680	---	113	43	176	38	18	9.8	7.3
30	4.4	85	30	470	---	106	44	160	36	17	9.5	7.3
31	4.4	---	29	393	---	100	---	149	---	17	9.1	---
Total	134.6	1045.2	2394	3087	2597	4167	1818	6051	2459	744	363.4	239.2
Mean	4.34	34.8	77.2	99.6	92.8	134	60.6	195	82.0	24.0	11.7	7.97
Max	4.6	241	269	680	255	546	89	357	139	35	17	9.5
Min	4.1	4.1	29	22	53	45	43	45	36	17	9.1	7.3
Ac-ft	267	2070	4750	6120	5150	8270	3610	12000	4980	1480	721	474

Cal yr 1966: Total 14,679.4 Mean 40.2 Max 378 Min 4.1 Ac-ft 29,120
 Wtr yr 1967: Total 25,099.4 Mean 68.8 Max 680 Min 4.1 Ac-ft 49,780

Peak discharge (base, 300 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-29	0200	3.66	375	1-29	0730	5.00	1,070
12-02	2030	4.38	685	3-16	1700	4.50	745
12-05	0600	3.61	357	3-23	0700	3.55	336
1-21	1900	4.22	609	5-21	1700	3.73	402

11-3954. SLY CREEK RESERVOIR NEAR STRAWBERRY VALLEY, CALIF.

LOCATION (revised).--Lat 39°35'00", long 121°06'45", in NW¼NW¼ sec.20, T.20 N., R.8 E., on right bank just upstream from dam on Lost Creek, 1.4 miles northwest of Strawberry Valley. Prior to Sept. 30, 1966, in valve chamber inside dam on Lost Creek.

DRAINAGE AREA.--24.0 sq mi.

RECORDS AVAILABLE.--November 1961 to September 1967 (fragmentary prior to Mar. 14, 1962).

GAGE.--Staff gage read once daily. Datum of gage is at mean sea level (levels by Oroville-Wyandotte Irrigation District). Prior to Sept. 30, 1966, graphic water-stage recorder in valve chamber inside dam at same datum.

EXTREMES.--Maximum contents during year, 65,000 acre-ft May 24 (elevation, 3,529.9 ft); minimum, 29,200 acre-ft Jan. 19 (elevation, 3,457.8 ft).

1961-67: Maximum contents, 65,500 acre-ft June 2-5, 11, 12, 1962, Apr. 7, 1963 (elevation, 3,531.5 ft); minimum, 8,430 acre-ft Jan. 28, 29, 1966 (elevation, 3,385.5 ft).

REMARKS.--Reservoir is formed by earthfill dam. Storage began in November 1961. Total capacity, 65,200 acre-ft between elevations 3,285 (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. Records, including extremes, show contents at 2400 hours. See schematic diagram for South Fork Feather River basin.

COOPERATION.--Reservoir staff gage readings furnished by Oroville-Wyandotte Irrigation District.

CAPACITY TABLE (ELEVATION, IN FEET, AND CONTENTS, IN ACRE-FT)

3,360	4,300
3,390	9,300
3,420	16,600
3,450	26,300
3,480	38,500
3,510	53,400
3,532	66,200

CONTENTS, IN THOUSANDS OF ACRE-FEET, AT 2400 HOURS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	41.5	34.1	39.3	39.9	46.9	50.2	56.2	45.2	64.0	64.0	62.4	56.4
2	41.5	33.7	41.6	39.1	43.0	49.9	56.0	44.8	63.9	63.6	62.4	56.9
3	41.8	33.2	43.7	33.4	48.7	49.5	55.7	44.5	63.9	63.4	62.2	57.4
4	41.3	32.8	45.3	37.7	49.4	49.2	55.5	44.5	63.9	63.3	62.1	57.9
5	40.8	32.3	47.3	37.0	50.0	43.8	55.2	44.5	63.9	63.2	62.1	58.2
6	40.6	32.2	48.6	36.2	50.6	43.4	54.8	44.6	63.9	63.0	62.4	58.1
7	40.1	31.9	49.2	35.4	51.1	43.0	54.7	45.2	63.7	62.7	62.4	57.9
8	39.7	31.5	49.5	34.7	51.5	47.6	54.3	46.6	63.7	62.7	62.2	58.2
9	39.9	31.1	49.6	34.0	51.8	47.3	53.7	47.9	63.5	62.6	61.9	53.6
10	40.1	30.6	49.6	33.4	52.0	47.3	53.1	49.2	63.2	62.4	61.6	59.0
11	39.9	30.3	49.6	32.7	52.3	47.5	52.8	50.3	62.9	62.1	61.3	59.1
12	39.9	30.2	49.4	32.1	52.7	47.6	52.7	51.1	62.9	61.8	61.3	59.0
13	39.7	30.0	49.3	31.3	53.1	47.8	52.5	51.9	63.7	61.6	61.1	59.0
14	39.4	29.8	49.1	30.7	53.6	47.4	52.3	52.7	64.3	61.6	60.8	59.0
15	39.4	30.4	48.8	29.9	53.9	47.8	52.0	53.7	64.3	61.7	60.6	59.0
16	39.9	31.1	48.5	29.7	54.1	50.0	51.7	55.1	64.4	61.9	60.3	59.1
17	39.7	31.2	48.3	29.5	53.8	52.8	51.4	56.7	64.5	61.9	60.0	59.5
18	39.2	31.5	47.9	29.4	53.4	54.6	51.2	58.0	64.7	61.8	59.8	59.6
19	39.0	31.9	47.4	29.2	53.0	55.4	50.8	59.4	64.7	61.9	59.5	59.6
20	38.5	33.0	47.0	29.9	52.5	56.1	50.4	60.9	64.6	61.9	59.5	59.4
21	38.3	34.0	46.6	32.6	52.2	56.6	50.0	62.3	64.4	61.9	59.3	59.2
22	37.8	34.6	46.0	34.9	52.0	57.0	49.5	63.6	64.4	62.1	59.0	59.0
23	37.6	34.9	45.5	35.6	51.9	57.1	49.1	64.7	64.6	62.4	58.7	58.8
24	37.2	34.8	45.0	36.1	51.6	57.1	48.6	65.0	64.9	62.4	53.6	53.8
25	36.8	34.7	44.4	36.1	51.4	57.0	48.2	64.8	64.9	62.2	58.4	58.7
26	36.3	34.4	43.7	36.9	51.1	56.8	47.7	64.6	64.9	62.2	58.0	58.4
27	35.9	34.4	43.3	36.6	50.9	56.7	47.2	64.5	64.9	62.2	57.8	58.2
28	35.2	35.5	42.6	37.3	50.5	56.6	46.7	64.3	64.8	62.2	57.4	57.8
29	35.0	37.1	41.9	40.5	-----	56.4	46.2	64.2	64.7	62.4	57.0	57.5
30	34.8	38.2	41.2	43.2	-----	56.3	45.7	64.0	64.4	62.6	56.6	57.5
31	34.3	-----	40.6	45.4	-----	56.3	-----	64.0	-----	62.6	56.4	-----
(+)	3,470.5	3,479.3	3,484.6	3,494.5	3,504.5	3,515.1	3,495.1	3,528.3	3,528.9	3,525.9	3,515.3	3,517.2
(+)	-7.5	+3.9	+2.4	+4.8	+5.1	+5.8	-10.6	+18.3	+0.4	-1.8	-6.2	+1.1
Max	41.8	38.2	49.6	45.4	54.1	57.1	56.2	65.0	64.9	64.0	62.4	59.6
Min	34.3	29.8	39.3	29.2	46.9	47.3	45.7	44.5	62.9	61.6	56.4	56.4

Calendar year 1966..... +24.9 Max 63.9 Min 8.43
 Water year 1966-67..... +15.7 Max 65.0 Min 29.2

+ Elevation, in feet, at end of month.

+ Change in contents, in thousands of acre-feet.

SACRAMENTO RIVER BASIN

11-3955. OROVILLE-WYANDOTTE CANAL NEAR CLIPPER MILLS, CALIF.

LOCATION.--Lat 39°33'15", long 121°11'30", in NE¼ sec.33, T.20 N., R.7 E., in concrete valve house at head of canal, 2.5 miles north of Clipper Mills.

RECORDS AVAILABLE.--October 1927 to September 1941 (published as Forbestown Ditch), October 1954 to September 1967. Monthly discharge only for October 1953 to September 1961, published with records for Lost Creek near Clipper Mills.

GAGE.--Graphic water-stage recorder and Parshall flume. Datum of gage is 3,166.0 ft above mean sea level (levels by Oroville-Wyandotte Irrigation District). Prior to Sept. 30, 1941, staff gages and Oct. 1, 1941, to Nov. 16, 1962, graphic water-stage recorder at sites at different datums 4 miles upstream in abandoned portion of canal 0.3 mile downstream from Lost Creek Dam.

AVERAGE DISCHARGE.--28 years, 18.7 cfs (13,540 acre-ft per year).

EXTREMES.--1927-41, 1954-67: Maximum daily discharge, 43 cfs Aug. 9 to Sept. 9, 1937; no flow at times in many years.

REMARKS.--Records good. Water is discharged to canal through valve in Woodleaf penstock. Prior to Nov. 16, 1962, canal diverted from Lost Creek Dam. Water is used for irrigation and domestic supply. See schematic diagram for South Fork Feather River basin.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	22	14	0.60	0.70		0	0.60	0.50	0.70	13	9.6	12
2	22	15	.60	.70		0	.60	.50	.70	13	10	11
3	20	15	.60	.70		0	.60	.50	.70	13	10	11
4	21	14	.60	.60		0	.60	.60	.70	14	9.5	11
5	20	14	.60	.60		0	.60	.60	.70	12	10	10
6	21	14	.60	.60		0	.60	.60	.70	12	10	10
7	22	14	.60	.60		1.3	.60	.60	.70	10	10	11
8	22	12	.60	.60		2.1	.60	.60	.70	10	11	12
9	21	9.8	.60	.60		2.3	.50	.60	.70	10	10	13
10	20	10	.60	.60		3.2	.60	.60	.70	10	10	12
11	20	10	.60	.60		3.2	.70	.60	.70	10	11	11
12	20	10	.60	.60		3.0	.70	.60	.70	10	11	13
13	20	11	.60	.60		2.3	.70	.60	.80	10	11	14
14	21	10	.60	.60		2.3	.70	.80	.80	10	10	13
15	21	8.8	.60	.60		2.3	.70	1.1	.80	10	11	15
16	21	6.9	.60	.60		1.5	.60	1.1	.80	10	11	17
17	20	6.1	.60	.60		.80	.60	1.1	.80	9.8	11	16
18	20	5.5	.60	3.1		.60	.60	1.0	.80	11	11	17
19	22	5.7	.60	4.6		.60	.60	.70	.70	12	12	17
20	22	5.8	.60	5.2		.60	.60	.60	.70	11	12	17
21	22	5.8	.60	2.1		.50	.60	.60	.70	11	11	16
22	23	2.5	.60	0		.50	.60	.60	.70	11	14	17
23	22	.60	.60	0		.60	.60	.60	.70	11	16	18
24	20	.80	.60	0		.60	.60	.60	.70	11	15	17
25	22	.60	.60	0		.60	.60	.60	.70	10	14	17
26	20	.60	.60	0		.60	.60	.60	2.3	10	15	19
27	16	.60	.60	0		.60	.60	.60	10	10	15	20
28	16	.60	.60	0		.60	.60	.70	13	10	14	19
29	16	.60	.60	0	-----	.60	.60	.70	13	11	13	18
30	16	.60	.70	0	-----	.60	.50	.70	13	11	11	19
31	14	-----	.70	0	-----	.60	-----	.70	-----	10	12	-----
Total	625	224.9	18.80	25.5	0	32.50	18.30	20.90	69.40	336.8	361.1	443
Mean	20.2	7.50	0.61	0.82	0	1.05	0.61	0.67	2.31	10.9	11.6	14.8
Max	23	15	0.70	5.2	0	3.2	0.70	1.1	13	14	16	20
Min	14	0.60	0.60	0	0	0	0.50	0.50	0.70	9.8	9.5	10
Ac-ft	1,240	446	37	51	0	64	36	41	138	668	716	878

Cal yr 1966 : Total 3,689.4 Mean 10.1 Max 24 Min 0.60 Ac-ft 7,320
Wtr yr 1967 : Total 2,176.2 Mean 5.96 Max 23 Min 0 Ac-ft 4,320

SACRAMENTO RIVER BASIN

849

11-3960. LOST CREEK NEAR CLIPPER MILLS, CALIF.

LOCATION.--Lat 39°34'25", long 121°08'25", in SW¼ sec.24, T.20 N., R.7 E., on left bank 0.3 mile downstream from Lost Creek Reservoir, and 2.8 miles north of Clipper Mills.

DRAINAGE AREA.--30.0 sq mi.

RECORDS AVAILABLE.--October 1927 to September 1941, October 1948 to September 1967. Records for Woodleaf powerplant from February 1963 to September 1966 in files of Geological Survey.

GAGE.--Graphic water-stage recorder. Altitude of gage is 3,170 ft (from topographic map).

AVERAGE DISCHARGE.--27 years (1927-41, 1948-61, prior to regulation by Sly Creek Reservoir), 73.0 cfs (52,850 acre-ft per year). Six years (1962-67), 35.4 cfs (25,630 acre-ft per year), unadjusted.

EXTREMES.--Maximum discharge during year, 615 cfs Mar. 28 (gage height, 3.39 ft); minimum daily, 0.10 cfs for several days.

1927-41, 1948-67: Maximum discharge, 5,000 cfs Dec. 22, 1955 (gage height, 6.90 ft); no flow at times in some years.

REMARKS.--Records fair. Flow regulated by Sly Creek Reservoir (see sta. no. 3954) and Lost Creek Reservoir, 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 from North Yuba River basin. Woodleaf Tunnel diverts from Lost Creek Reservoir to Woodleaf powerhouse. Oroville-Wyandotte Canal (see sta. no. 3955) diverts from Woodleaf penstock for irrigation and domestic use. Records represent release or spill from Lost Creek Dam to Lost Creek. See schematic diagram for South Fork Feather River basin.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.50	0.10	0.70	1.0	4.1	0.30	8.1	0.70	193	0.10	0.40	0.30
2	.60	.10	3.1	1.0	2.7	.30	.50	.70	165	.10	.40	.30
3	.60	.10	1.5	1.0	1.7	.30	.50	.70	126	.10	.40	.30
4	.50	.10	2.0	.80	1.4	.30	.50	.70	132	.10	.40	.30
5	.60	.10	3.3	.80	1.2	.30	.60	.70	138	.10	.40	.30
6	.60	.40	2.1	.80	1.0	.30	1.0	.70	132	.90	.40	.30
7	.60	.20	1.0	.80	1.0	.30	1.0	.70	122	.90	.40	.30
8	.60	.10	.70	.80	.80	.20	.80	.70	49	.90	.40	.30
9	.60	.10	.50	.80	.80	.20	.80	.80	.20	.70	.40	.30
10	.60	.10	.50	.80	.80	.30	.80	.80	.20	.70	.40	.30
11	.60	.10	.50	.80	.80	.50	.80	.80	.20	1.1	.40	.30
12	.50	.20	.40	.80	.80	.40	.70	.70	.20	1.8	.60	.30
13	.50	.10	.40	.80	.50	.40	.80	.60	.20	1.4	.40	.30
14	.50	.20	.40	.80	.40	.30	.80	.60	.10	1.2	.50	.20
15	.50	.90	.40	.80	.40	.50	.80	.50	.10	1.0	.40	.20
16	.40	1.0	.30	.80	.40	4.9	.80	.50	.10	.80	.40	.20
17	.20	.20	.30	.80	.30	2.7	.80	.50	.10	.80	.30	.20
18	.80	.20	.30	.80	.30	1.6	.80	.50	.10	.80	.30	.20
19	.80	.70	.30	.80	.30	1.2	.80	.50	.10	.70	.30	.20
20	.80	1.3	.30	1.9	.30	1.0	.70	.50	1.8	.60	.30	.20
21	.80	.80	.30	9.6	.30	.80	.70	.50	63	.60	.30	.20
22	.80	.60	.30	4.5	.30	19	.70	.40	23	.50	.30	.30
23	.80	.30	.30	2.1	.30	348	.70	.40	.10	.50	.30	.30
24	.80	.30	.30	1.4	.30	396	.80	164	.10	.50	.30	.30
25	.70	.20	.30	1.2	.30	336	.80	430	.10	.50	.30	.30
26	.50	.20	.30	1.2	.30	255	.80	388	.10	.50	.30	.30
27	.20	.20	.30	1.2	.30	170	.80	352	.10	.50	.30	.30
28	.20	.50	.50	2.6	.30	400	.80	305	.10	.50	.30	.30
29	.10	1.3	1.0	6.3	-----	81	.80	284	.10	.50	.30	.30
30	.10	.40	1.0	5.0	-----	31	.70	261	.10	.50	.30	.30
31	.10	-----	1.0	6.2	-----	27	-----	219	-----	.40	.30	-----
Total	16.50	11.10	24.60	59.00	22.40	2,080.10	30.00	2,417.20	1,152.20	20.30	11.20	8.20
Mean	0.53	0.37	0.79	1.90	0.80	67.1	1.00	78.0	38.4	0.65	0.36	0.27
Max	0.80	1.3	3.3	9.6	4.1	400	8.1	430	198	1.8	0.60	0.30
Min	0.10	0.10	0.30	0.80	0.30	0.20	0.50	0.40	0.10	0.10	0.30	0.20
Ac-ft	33	22	49	117	44	4,130	60	4,790	2,290	40	22	16
(†)	28,640	19,050	56,570	50,190	57,950	61,120	62,200	60,950	59,660	27,260	28,430	25,500

Calendar year 1966 Total 4,700.40 Mean 12.9 Max 175 Min 0 Ac-ft 9,320
 Water year 1966-67 Total 5,852.80 Mean 16.0 Max 430 Min 0.10 Ac-ft 11,610

† Diversion, in acre-feet, to Woodleaf powerplant; furnished by Oroville-Wyandotte Irrigation District.

SACRAMENTO RIVER BASIN

11-3962. SOUTH FORK FEATHER RIVER BELOW FORBESTOWN DAM, CALIF.

LOCATION.--Lat 39°33'05", long 121°12'30", in NE¼ sec.32, T.20 N., R.7 E., on right bank 500 ft downstream from Forbestown Dam, 0.4 mile upstream from Oroleve Creek, and 4.0 miles northeast of Forbestown.

DRAINAGE AREA.--87.5 sq mi.

RECORDS AVAILABLE.--July 1962 to September 1967. Records for Forbestown powerplant from February 1963 to September 1966 in files of Geological Survey.

GAGE.--Graphic water-stage recorder. Altitude of gage is 1,690 ft (from topographic map).

EXTREMES.--Maximum discharge during year, 1,280 cfs May 24 (gage height, 8.39 ft); minimum daily, 2.7 cfs Nov. 3.

1962-67: Maximum discharge, 7,510 cfs Jan. 31, 1963 (gage height, 13.85 ft, in gage well, 15.3 ft, from floodmarks); minimum daily, 0.6 cfs Apr. 4, 1963.

REMARKS.--Records fair. Flow regulated by Little Grass Valley Reservoir (see sta. no. 3950.2), Sly Creek Reservoir (see sta. no. 3954) and smaller reservoirs. Water from North Yuba River basin is imported through Slate Creek Tunnel (see sta. no. 4132.5) to Sly Creek Reservoir. Oroville-Wyandotte Canal (see sta. no. 3955) diverts above station. Tunnel 600 ft above station diverts most flow through Forbestown powerplant except fishwater releases and uncontrolled spill over Forbestown Dam. See schematic diagram for South Fork Feather River basin.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9.9	8.2	5.6	5.8	236	6.8	50	28	408	8.1	9.4	11
2	9.9	3.0	32	5.8	144	6.8	36	34	350	8.1	9.4	11
3	9.9	2.7	8.0	5.8	84	6.8	33	42	310	8.1	9.4	11
4	9.9	4.2	6.3	5.8	42	6.8	31	46	334	8.1	9.4	11
5	9.9	5.4	109	5.8	27	6.8	43	44	332	8.1	9.1	11
6	9.9	5.6	154	5.8	20	6.6	141	49	280	8.1	9.8	11
7	9.9	5.4	69	5.8	11	6.6	130	82	208	8.1	9.8	11
8	9.9	5.4	14	5.8	11	6.6	81	99	75	7.8	9.8	11
9	9.9	5.4	5.6	5.6	8.9	6.6	60	102	8.4	7.8	9.8	11
10	9.9	5.6	5.6	5.6	7.1	6.8	61	131	9.4	8.1	9.8	11
11	9.9	5.6	5.6	5.6	7.1	17	59	108	9.4	8.1	9.8	11
12	9.9	5.6	5.6	5.6	7.1	6.8	48	100	10	8.8	10	11
13	9.9	5.6	5.6	5.6	7.1	6.8	46	84	9.8	9.1	10	11
14	9.9	5.6	5.6	5.8	7.1	7.1	56	86	9.8	9.1	10	11
15	9.9	5.7	5.6	5.8	7.1	7.1	54	88	9.8	8.8	10	11
16	9.9	5.6	5.6	5.8	7.1	497	46	84	29	8.8	9.8	11
17	9.9	5.4	5.6	5.8	7.1	597	56	79	111	8.8	9.8	11
18	9.9	5.4	5.4	5.8	7.1	410	59	73	100	8.8	10	11
19	9.9	5.6	5.4	5.8	7.1	274	60	65	98	9.1	10	11
20	9.9	5.7	5.4	6.4	7.1	198	54	74	95	9.1	10	11
21	9.9	5.6	5.4	324	7.1	131	48	69	169	9.1	10	11
22	9.9	5.6	5.4	156	7.1	80	42	52	92	9.1	10	11
23	9.9	5.4	5.6	26	7.1	401	47	258	8.4	9.1	10	11
24	9.9	5.4	5.6	36	7.1	430	58	1020	8.4	9.1	10	11
25	9.9	5.4	5.6	23	7.4	346	59	1200	8.4	9.1	10	11
26	9.9	5.2	5.6	6.4	7.4	268	51	1010	8.4	9.1	10	8.7
27	9.9	5.2	5.6	11	7.4	193	54	728	8.1	9.1	10	6.8
28	9.9	5.4	5.6	113	6.8	399	48	579	8.1	9.1	10	7.8
29	9.9	5.4	5.6	483	-----	136	34	513	8.1	9.1	10	7.8
30	9.9	5.4	5.6	324	-----	76	36	470	8.1	9.4	11	7.8
31	9.9	-----	5.8	449	-----	75	-----	422	-----	9.4	11	-----
Total	306.9	160.7	525.9	2067.0	719.4	4,628.0	1,681	7,818	3,123.6	269.6	307.1	313.9
Mean	9.90	5.35	17.0	66.7	25.7	149	56.0	252	104	8.70	9.91	10.5
Max	9.9	9.7	154	483	236	597	141	1,200	408	9.4	11	11
Min	9.9	5.4	5.4	5.6	6.8	6.6	31	28	8.1	7.8	9.1	6.8
Ac-ft	609	317	1,040	4,100	1,430	9,180	3,330	15,510	6,200	535	609	623
(†)	26,920	21,330	67,320	62,020	68,530	75,340	75,990	77,260	72,610	31,360	30,250	27,020
Calendar year 1966:	Total	3,126.3	Mean	8.57	Max	154	Min	2.7	Ac-ft	6,200		
Water year 1966-67:	Total	21,921.1	Mean	60.1	Max	1,200	Min	2.7	Ac-ft	43,480		

† Diversion in acre-feet to Forbestown powerplant; furnished by Oroville-Wyandotte Irrigation District.

11-3963.1. MINERS RANCH CANAL BELOW PONDEROSA DAM, NEAR FORBESTOWN, CALIF.

LOCATION.--Lat 39°33'00", long 121°18'20", in SE $\frac{1}{4}$ NW $\frac{1}{4}$ sec.33, T.20 N., R.6 E., on right bank 800 ft downstream from Ponderosa Dam, and 3 miles northwest of Forbestown.

RECORDS AVAILABLE.--October 1962 to September 1967.

GAGE.--Graphic water-stage recorder and Parshall flume. Altitude of gage is 975 ft (from topographic map).

AVERAGE DISCHARGE.--5 years, 216 cfs (156,400 acre-ft per year).

EXTREMES.--1962-67: Maximum daily discharge, 277 cfs July 22, 1965; no flow at times in most years.

REMARKS.--Records excellent. Canal diverts from South Fork Feather River at Ponderosa Dam. Water is used for power development and irrigation. See schematic diagram for South Fork Feather River basin.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	252	258	0	232	232	234	234	229	274	274	266	270
2	254	232	12	232	206	234	234	230	274	274	271	270
3	254	251	123	232	235	234	235	230	272	274	274	267
4	259	252	238	232	238	235	236	230	272	271	272	266
5	263	246	244	232	238	236	236	232	271	270	271	264
6	261	253	215	232	238	236	235	238	267	268	268	267
7	263	245	220	233	236	235	233	240	263	267	267	267
8	262	229	234	233	236	232	232	36	259	270	268	267
9	252	221	233	233	236	228	232	0	253	267	268	267
10	250	221	233	234	236	228	232	0	251	264	271	264
11	261	224	233	234	236	228	233	0	252	268	271	262
12	205	222	234	234	236	228	234	0	261	268	270	264
13	262	203	234	234	224	228	234	93	271	268	267	266
14	261	195	234	234	234	221	234	219	272	270	268	266
15	261	219	234	234	234	215	233	242	272	268	268	266
16	258	218	234	246	202	215	233	241	272	264	268	266
17	258	136	234	238	199	216	232	241	272	267	268	268
18	261	221	234	230	236	218	229	248	272	270	268	266
19	261	221	234	232	236	220	226	252	270	270	268	268
20	262	222	234	224	235	228	220	256	270	268	268	268
21	262	221	234	189	235	232	220	254	270	270	268	268
22	261	221	234	175	235	235	223	254	270	272	268	266
23	259	219	234	200	235	236	228	253	272	267	270	264
24	259	213	234	234	234	235	228	254	275	251	270	263
25	259	207	234	234	234	234	229	253	276	267	270	263
26	261	216	234	238	234	234	229	253	275	274	270	266
27	259	211	234	233	234	234	226	256	275	272	270	266
28	259	34	234	228	234	234	222	258	275	272	268	264
29	261	0	234	202	-----	234	226	267	274	272	270	264
30	258	0	234	229	-----	238	228	271	274	264	270	264
31	258	-----	233	232	-----	236	-----	274	-----	244	270	-----
Total	7,976	6,031	6,664	7,059	6,478	7,131	6,906	6,304	8,076	8,305	8,344	7,977
Mean	257	201	215	228	231	230	230	203	269	268	269	266
Max	263	258	244	246	238	238	236	274	276	274	274	270
Min	205	0	0	175	199	215	220	0	251	244	266	262
Ac-ft	15,820	11,960	13,220	14,000	12,850	14,140	13,700	12,500	16,020	16,470	16,550	15,820
(†)	13,119	11,441	12,668	13,632	12,335	13,678	13,419	11,268	13,252	12,906	12,524	12,129

Cal yr 1966: Total 84,144 Mean 231 Max 276 Min 0 Ac-ft 166,900
Wtr yr 1967: Total 87,251 Mean 239 Max 276 Min 0 Ac-ft 173,100

† Diversion in acre-feet, to Kelly Ridge powerplant; furnished by Oroville-Wyandotte Irrigation District.

SACRAMENTO RIVER BASIN

11-3963.3. BANGOR CANAL BELOW MINERS RANCH RESERVOIR, NEAR OROVILLE, CALIF.

LOCATION.--Lat 39°30'15", long 121°27'20", in NE¼SW¼ sec.18, T.19 N., R.5 E., on left bank 400 ft downstream from outlet at Miners Ranch Dam and 5 miles east of Oroville.

RECORDS AVAILABLE.--January 1963 to September 1967.

GAGE.--Graphic water-stage recorder and Parshall flume. Altitude of gage is 815 ft (from topographic map).

EXTREMES.--1963-67: Maximum daily discharge, 65 cfs Aug. 17-20, 1963; no flow for several days in 1965.

REMARKS.--Records excellent. Flow regulated by Miners Ranch Reservoir (capacity, 912 acre-ft). Canal completed in November 1962. Water is used for irrigation. See schematic diagram for South Fork Feather River basin.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	29	11	4.0	4.4	4.4	4.4	4.4	4.2	28	28	30	31
2	29	2.6	4.0	4.4	4.4	4.4	4.4	4.0	28	28	30	30
3	29	2.6	3.7	4.4	4.4	4.4	4.4	4.0	28	27	30	30
4	29	2.6	3.3	4.4	4.4	4.4	4.4	4.2	28	28	30	30
5	29	2.6	2.9	4.4	4.4	4.4	4.4	4.2	19	29	30	30
6	29	2.6	3.4	4.4	4.4	4.4	4.4	4.2	15	30	30	30
7	29	2.6	4.4	4.4	4.4	4.4	4.4	4.2	16	30	30	30
8	29	2.6	4.2	4.4	4.4	4.4	4.4	4.2	16	30	30	30
9	29	2.6	4.2	4.4	4.4	4.2	4.4	4.2	16	30	30	30
10	29	2.6	4.4	4.4	4.4	4.2	4.4	4.2	16	30	31	30
11	29	2.6	4.4	4.4	4.4	4.2	4.4	4.0	16	30	31	30
12	28	2.6	4.4	4.4	4.4	4.4	4.2	4.0	24	30	31	30
13	28	2.6	4.4	4.4	4.4	4.4	4.0	4.0	29	31	31	30
14	29	2.6	4.4	4.4	4.4	4.4	4.0	4.0	29	31	31	30
15	29	2.4	4.4	4.4	4.6	4.4	4.0	4.0	29	31	31	30
16	30	2.4	4.2	4.4	4.6	4.4	4.0	4.0	29	31	31	30
17	29	2.4	4.4	4.4	4.9	4.4	4.0	4.0	29	31	31	30
18	29	3.5	4.4	4.4	4.9	4.4	4.0	6.4	29	31	31	30
19	26	4.0	4.4	4.4	4.9	4.2	4.0	8.1	29	31	31	30
20	25	4.2	4.4	4.2	4.6	4.2	4.0	8.4	29	31	31	30
21	25	4.2	4.4	3.3	4.6	4.2	4.0	8.4	29	31	31	30
22	25	4.0	4.4	3.7	4.6	4.2	4.2	15	29	31	31	30
23	25	4.0	4.4	4.4	4.6	4.2	4.2	18	28	31	31	30
24	25	4.0	4.4	4.4	4.6	4.2	4.2	18	28	30	31	30
25	25	4.0	4.4	4.4	4.6	4.2	4.2	18	28	30	31	30
26	25	4.2	4.4	4.4	4.6	4.2	4.2	21	28	30	31	30
27	24	4.2	4.4	4.4	4.6	4.2	4.2	23	28	30	31	30
28	24	4.0	4.4	4.4	4.6	4.2	4.2	23	28	31	31	30
29	24	3.7	4.4	4.4	- - - -	4.2	4.2	23	28	31	31	30
30	24	3.7	4.4	4.4	- - - -	4.2	4.2	26	28	31	31	30
31	24	- - - -	4.4	4.4	- - - -	4.4	- - - -	28	- - - -	30	31	- - - -
Total	842	103.7	130.7	134.4	126.9	133.4	126.4	313.9	764	934	952	901
Mean	27.2	3.46	4.22	4.34	4.53	4.30	4.21	10.1	25.5	30.1	30.7	30.0
Max	30	11	4.4	4.4	4.9	4.4	4.4	28	29	31	31	31
Min	24	2.4	2.9	3.3	4.4	4.2	4.0	4.0	15	27	30	30
Ac-ft	1670	206	259	267	253	265	251	623	1520	1850	1890	1790
Cal yr 1966: Total	5653.2			15.5	Max 31	Min 0.10	Ac-ft 11210					
Wtr yr 1967: Total	5462.4			15.0	Max 31	Min 2.4	Ac-ft 10830					

11-3963.5. SOUTH FORK FEATHER RIVER BELOW PONDEROSA DAM, CALIF.

LOCATION.--Lat 39°33'05", long 121°18'30", in NW¼ sec.33, T.20 N., R.6 E., on left bank 1,000 ft upstream from Sucker Run, 1,800 ft downstream from Ponderosa Dam, and 2.8 miles northwest of Forbestown.

DRAINAGE AREA.--108 sq mi.

RECORDS AVAILABLE.--July 1962 to September 1967.

GAGE.--Graphic water-stage recorder. Altitude of gage is 830 ft (from topographic map).

EXTREMES.--Maximum discharge during year, 3,320 cfs Jan. 21 (gage height, 7.30 ft); minimum daily, 0.20 cfs for several days.

1962-67: Maximum discharge, 11,000 cfs Dec. 22, 1964 (gage height, 11.52 ft, in gage well, 12.7 ft outside, from floodmarks); minimum daily, 0.10 cfs Apr. 3, 4, 1966.

REMARKS.--Records good. Flow regulated by several reservoirs and diversions. Water is imported from North Yuba River basin through Slate Creek Tunnel. Miners Ranch Canal (see sta. no. 3963.1) diverts 1,800 ft upstream for power development and irrigation; diversion began in October 1962. See schematic diagram for South Fork Feather River basin. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.50	0.20	407	321	1,070	363	537	531	848	296	0.30	0.30
2	.40	.20	582	321	806	363	515	520	764	293	.30	.30
3	.40	.20	642	321	648	359	500	526	708	186	.30	.30
4	.60	.20	310	318	559	359	495	526	726	.50	.30	.30
5	.50	.20	808	318	515	351	526	532	738	.40	.30	.30
6	.40	.70	802	314	485	335	820	500	690	.40	.30	.30
7	.40	.30	624	307	456	351	785	526	618	.40	.30	.30
8	.50	.20	500	296	442	355	654	738	475	.40	.30	.30
9	.60	.20	442	307	434	359	588	834	371	.40	.30	.30
10	.40	.20	429	310	420	375	582	883	371	.30	.30	.30
11	.40	.20	398	304	411	465	576	834	351	.30	.30	.30
12	.30	.20	380	228	402	465	548	820	371	.30	.30	.30
13	.30	.20	371	307	411	480	537	702	367	.30	.30	.30
14	.30	.20	375	307	393	465	554	537	343	.30	.30	.30
15	.30	.50	359	300	388	475	548	510	335	.30	.30	.30
16	.30	1.0	351	174	411	1,320	532	490	339	.30	.30	.30
17	.30	.20	343	.40	456	1,480	559	475	424	.30	.30	.30
18	.30	.20	343	.30	411	1,110	600	465	438	.30	.20	.30
19	.30	.80	335	.30	406	890	600	456	442	.30	.30	.30
20	.30	1.0	335	32	402	738	594	447	438	.30	.30	.30
21	.30	.60	328	1,750	398	630	582	447	505	.30	.30	.30
22	.30	.30	328	1,260	393	559	559	420	465	.30	.20	.30
23	.30	.20	332	474	388	912	570	533	335	.30	.30	.30
24	.30	.20	335	618	384	1,010	600	1,460	310	.30	.30	.30
25	.30	.20	332	570	402	890	588	1,810	307	.20	.30	.30
26	.20	.20	335	526	388	792	570	1,610	300	.30	.30	.30
27	.30	.20	324	537	363	684	588	1,250	293	.30	.30	.30
28	.40	.18	321	732	363	544	570	1,040	272	.30	.30	.30
29	.30	489	318	1,610	-----	642	554	962	250	.30	.30	.30
30	.30	398	321	1,230	-----	526	554	906	279	.30	.30	.30
31	.30	-----	318	1,630	-----	554	-----	848	-----	.30	.30	-----
Total	11.10	914.0	12,728	15,723	13,005	19,201	17,385	23,138	13,473	784.00	9.10	9.00
Mean	0.36	30.5	411	507	464	619	580	746	449	25.3	0.29	0.30
Max	0.60	489	808	1,750	1,070	1,480	820	1,810	848	296	0.30	0.30
Min	0.20	0.20	310	0.30	363	335	495	420	250	0.20	0.20	0.30
Ac-ft	22	1,810	25,250	31,190	25,800	38,080	34,480	45,890	26,720	1,560	18	18
Mean †	258	231	626	735	696	849	810	950	719	293	269	266
Ac-ft†	15,840	13,770	38,470	45,190	38,650	52,220	48,180	58,390	42,740	18,030	16,570	15,840

Cal yr 1966: Total 32,057.0 Mean 87.8 Max 808 Min 0.1 Ac-ft 63,580 Mean † 318 Ac-ft † 230,500
Wtr yr 1967: Total 116,380.20 Mean 319 Max 1,810 Min 0.20 Ac-ft 230,800 Mean † 558 Ac-ft † 403,900

† Adjusted for diversion to Miners Ranch Canal.

SACRAMENTO RIVER BASIN

11-3964. SUCKER RUN NEAR FORBESTOWN, CALIF.

LOCATION.--Lat 39°33'12", long 121°18'04", in NW¼ sec.33, T.20 N., R.6 E., on left bank at upstream side of road bridge, 0.7 mile upstream from confluence with South Fork Feather River, and 2.8 miles northwest of Forbestown.

DRAINAGE AREA.--18.7 sq mi.

RECORDS AVAILABLE.--June 1965 to September 1967.

GAGE.--Digital water-stage recorder. Altitude of gage is 960 ft (from topographic map).

EXTREMES.--Maximum discharge during year, 819 cfs Jan. 21 (gage height, 6.03 ft), from rating curve extended above 180 cfs as explained below; minimum daily, 0.40 cfs Oct. 7.

1965-67: Maximum discharge, 819 cfs Jan. 21, 1967 (gage height, 6.03 ft), from rating curve extended above 180 cfs on basis of critical depth computation of flow at gage height 7.4 ft; minimum daily, 0.40 cfs Oct. 7, 1966.

Flood of Dec. 22, 1964, reached a stage of 7.4 ft, from floodmarks (discharge, 1,260 cfs, from computation of critical depth flow over the rock control).

REMARKS.--Records poor. No storage or diversions above station. See schematic diagram for South Fork Feather River basin.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1.1	2.4	30	7.2	135	12	51	57	39	12	5.4	3.5
2	1.6	2.7	126	7.5	89	12	54	55	30	11	5.6	3.6
3	1.5	3.0	76	7.8	68	12	56	54	27	11	5.9	3.6
4	.80	3.1	78	8.0	56	12	54	53	25	11	5.7	3.6
5	.60	3.0	169	8.0	48	11	70	52	29	11	5.0	3.8
6	.50	15	125	8.0	43	10	195	50	28	12	4.9	4.0
7	.40	7.5	60	7.8	37	11	129	50	26	12	6.0	3.7
8	.90	3.4	37	7.8	34	9.9	96	50	25	12	5.9	3.5
9	1.4	2.7	27	7.7	31	9.5	83	52	24	11	6.0	3.3
10	1.0	3.1	29	7.7	29	16	79	59	24	11	6.1	3.3
11	1.7	3.4	22	7.6	27	55	78	50	23	11	6.0	3.1
12	1.1	6.2	18	7.6	25	44	69	49	31	11	5.0	2.9
13	1.6	4.9	15	7.6	24	41	64	43	29	11	3.7	2.8
14	1.3	4.5	13	7.6	23	37	71	41	27	10	4.5	2.6
15	1.1	23	11	7.6	22	48	64	40	25	9.9	4.9	2.4
16	1.6	44	9.9	7.6	21	253	58	39	24	9.9	5.1	2.2
17	1.7	8.0	9.1	7.6	21	131	73	37	23	10	4.5	2.3
18	2.6	5.9	8.4	7.6	20	95	76	34	22	10	4.3	3.5
19	1.2	21	8.4	8.0	19	74	73	33	21	10	4.1	2.4
20	1.4	64	8.1	40	18	67	69	31	20	10	4.2	2.1
21	1.6	36	8.0	350	17	62	69	30	19	10	5.2	1.9
22	2.2	24	7.2	240	17	55	66	28	18	9.9	5.6	1.6
23	2.3	12	7.1	150	16	73	78	27	17	9.6	5.8	2.5
24	2.1	8.5	7.1	90	17	56	82	26	16	7.5	5.0	2.1
25	1.8	7.6	6.9	78	22	49	73	25	15	6.7	5.3	1.6
26	2.0	7.0	6.9	70	17	45	68	24	15	6.4	3.6	1.3
27	2.3	6.8	6.9	65	15	42	78	24	14	6.6	3.3	1.1
28	2.4	19	7.0	135	14	42	69	24	14	6.7	3.7	1.2
29	2.6	55	7.0	259	-----	42	62	24	13	5.8	3.6	1.0
30	3.0	18	7.0	193	-----	43	63	23	13	5.9	3.4	1.5
31	2.7	-----	7.0	255	-----	52	-----	25	-----	5.8	3.4	-----
TOTAL	50.10	424.7	958.0	2,071.3	925	1,521.4	2,270	1,209	676	297.7	150.7	78.0
MEAN	1.62	14.2	30.9	66.8	33.0	49.1	75.7	39.0	22.5	9.60	4.86	2.60
MAX	3.0	64	169	350	135	253	195	59	39	12	6.1	4.0
MIN	.40	2.4	6.9	7.2	14	9.5	51	23	13	5.8	3.3	1.0
AC-FT	99	842	1,900	4,110	1,830	3,020	4,500	2,400	1,340	590	299	155

CAL YR 1966: TOTAL 4,907.20 MEAN 13.4 MAX 205 MIN .40 AC-FT 9,730
WAT YR 1967: TOTAL 10,631.90 MEAN 29.1 MAX 350 MIN .40 AC-FT 21,090

Peak discharge (base, 300 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-02	2030	4.32	408	1-29	0545	4.72	497
12-05	0030	3.92	320	1-31	0600	4.04	347
1-21	----	6.03	819	3-16	1445	4.02	342

Note.--No gage-height record Jan. 8-26.

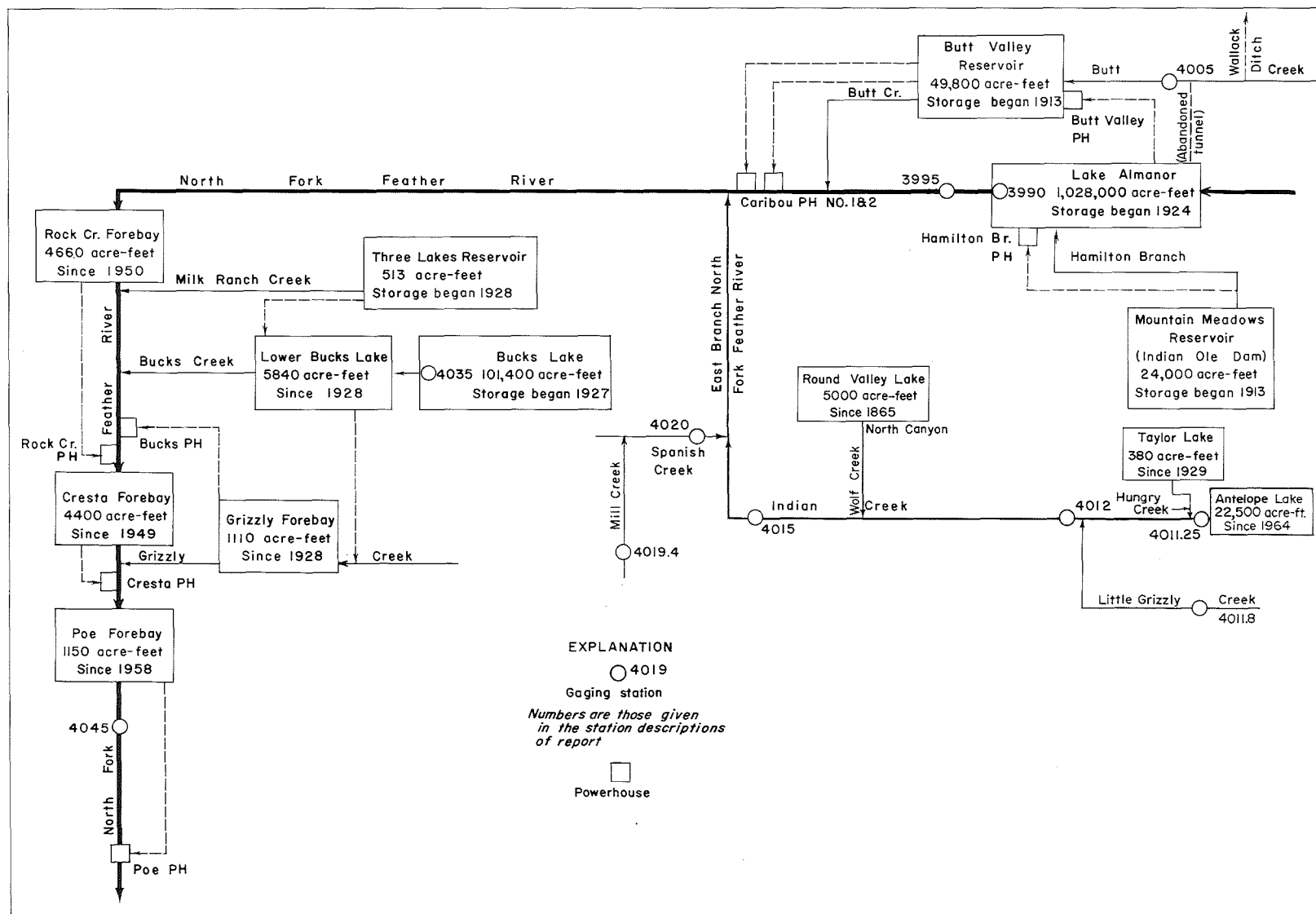


Figure 9.-- Schematic diagram showing diversions and storage in North Fork Feather River basin.

SACRAMENTO RIVER BASIN

11-3990. LAKE ALMANOR AT PRATTVILLE, CALIF.

LOCATION.--Lat 40°12'50", long 121°09'40", in SW¼NE¼ sec.11, T.27 N., R.7 E., at outlet tower to No. 2 tunnel on North Fork Feather River at Prattville, 4.7 miles northwest of Lake Almanor Dam and 5.6 miles northwest of Canyon Dam.

DRAINAGE AREA.--491 sq mi.

RECORDS AVAILABLE.--July 1913 to September 1967. Monthly contents only for some periods, published in WSP 1315-A. Published as "near Prattville" 1937-64. Prior to October 1964, records published as usable contents.

GAGE.--Telemark gage monitored once daily. Datum of gage is 10.23 ft below mean sea level (levels by Pacific Gas and Electric Co.). Prior to June 1, 1965, staff gage at site 4.7 miles southeast at same datum.

EXTREMES.--Maximum contents observed during year, 1,022,100 acre-ft July 2 (gage height, 4,489.46 ft); minimum observed, 611,300 acre-ft Jan. 19 (gage height, 4,472.19 ft).

1913-67: Maximum contents, 1,039,900 acre-ft June 10, 1965 (gage height, 4,490.14 ft); minimum, 5,230 acre-ft Feb. 5, 1918 (gage height, 4,416.1 ft).

REMARKS.--Lake is formed by earth-fill dam; storage began in July 1913; dam raised to gage height 4,455 ft in 1917 and 4,515 ft in 1927. Capacity, 1,036,000 acre-ft between gage heights 4,490 (upper storage limit) and 4,422 ft (bottom of lowest outlet) of which 8,950 acre-ft is not available for release. Water is diverted by tunnel and penstock to Butt Valley Reservoir and powerhouse for use in Caribou powerplants; some water also released down North Fork Feather River (see sta. no. 3995). Figures given herein represent total contents at 2400 hours. See schematic diagram of North Fork Feather River basin.

COOPERATION.--Record of contents furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project.

CAPACITY TABLE (GAGE HEIGHT, IN FEET, AND CONTENTS, IN ACRE-FEET)

4,422	8,950	4,450	220,800
4,424	10,100	4,455	294,500
4,426	11,300	4,460	376,700
4,428	13,500	4,465	467,000
4,430	21,200	4,470	565,500
4,432	34,200	4,475	672,700
4,434	49,500	4,480	787,300
4,437	74,200	4,485	908,500
4,440	101,900	4,490	1,036,000
4,445	156,400		

CONTENTS, IN THOUSANDS OF ACRE-FEET, AT 2400 HOURS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	628.8	619.7	668.0	669.5	650.8	656.5	701.8	742.2	896.3	1,020.3	964.9	887.2
2	629.2	619.7	672.4	666.2	653.8	654.7	703.6	741.8	900.8	1,022.1	962.6	884.4
3	628.1	619.3	674.7	662.7	656.1	652.5	705.4	741.1	905.5	1,021.9	960.3	882.0
4	627.2	618.8	680.2	659.1	658.7	649.9	707.5	741.6	910.4	1,021.1	957.2	897.5
5	627.9	619.3	683.2	656.3	660.7	647.7	710.2	743.9	915.2	1,020.0	954.7	876.8
6	627.2	621.0	685.2	653.0	662.7	646.2	712.9	745.7	918.7	1,018.7	951.9	874.4
7	626.6	621.2	686.7	649.9	664.4	645.1	714.8	748.0	922.7	1,016.9	949.6	871.9
8	627.7	621.4	687.9	646.2	666.4	643.5	716.3	751.0	926.9	1,014.8	947.3	869.9
9	626.6	621.0	689.7	643.1	666.4	640.1	718.4	755.0	931.0	1,013.5	944.8	865.8
10	626.4	619.9	690.1	639.8	666.0	643.8	720.2	758.2	935.2	1,012.0	942.3	863.1
11	625.7	620.6	689.7	636.8	667.8	648.1	722.3	761.3	939.3	1,010.1	939.5	859.9
12	625.7	621.4	690.3	633.1	669.5	650.1	723.6	763.8	944.8	1,008.3	936.0	858.0
13	625.3	621.8	692.6	630.3	671.3	653.8	725.9	765.9	948.9	1,006.5	935.5	854.4
14	623.8	622.5	694.2	627.0	673.3	655.2	728.0	769.0	953.2	1,004.2	932.7	851.9
15	624.2	626.2	695.5	623.4	673.3	658.3	729.8	772.5	957.7	1,002.4	929.7	849.5
16	623.8	629.2	696.9	620.6	671.8	661.8	731.2	777.4	962.8	1,000.6	927.2	846.6
17	622.7	630.3	698.7	617.5	671.5	664.7	735.1	783.0	967.9	998.2	924.7	844.2
18	623.4	631.6	700.0	614.1	672.9	667.3	736.9	784.9	972.8	996.2	921.9	841.3
19	624.2	638.5	701.4	611.3	674.7	669.5	738.8	797.0	979.2	993.6	918.9	838.9
20	624.2	642.7	702.7	613.5	674.0	672.2	740.4	805.3	983.5	991.5	915.9	836.7
21	625.3	646.8	703.9	619.3	671.3	674.4	742.2	813.4	987.9	989.2	913.9	834.1
22	626.4	648.4	702.1	621.8	668.9	676.4	742.9	822.6	992.5	987.1	911.4	831.4
23	627.2	650.1	699.3	621.8	666.0	680.7	743.2	831.4	996.2	984.8	909.2	829.8
24	628.1	651.7	696.0	623.1	664.2	682.7	742.9	840.3	1,000.3	982.8	906.7	826.6
25	628.8	653.4	693.0	626.4	663.1	685.0	742.7	848.5	1,004.7	980.5	904.2	823.9
26	629.6	654.7	685.4	628.5	661.6	687.2	741.8	856.5	1,008.3	978.4	901.7	821.5
27	629.8	655.8	686.1	630.1	659.6	689.4	741.8	863.6	1,012.2	976.1	899.8	819.9
28	627.9	658.5	682.7	632.0	658.3	691.9	741.1	870.9	1,015.1	973.8	897.0	817.7
29	625.5	660.7	679.6	637.4	-----	693.9	741.8	877.8	1,016.7	971.7	894.6	816.5
30	623.1	662.7	676.0	643.8	-----	696.6	742.9	883.9	1,019.0	969.7	892.1	815.3
31	620.8	-----	672.7	647.9	-----	699.8	-----	889.6	-----	967.2	889.6	-----
(+)	4,472.63	4,474.55	4,475.00	4,473.88	4,474.35	4,476.21	4,478.10	4,484.24	4,489.34	4,487.33	4,484.24	4,481.18
(*)	-7,500	+41,900	+10,000	-24,800	+10,400	+41,500	+43,100	+146,700	+129,400	-51,800	-77,600	-74,300
Max	629.2	662.7	703.9	669.5	674.7	699.8	743.2	889.6	1,019.0	1,022.1	964.9	887.2
Min	620.8	618.8	668.0	611.3	650.8	640.1	701.8	741.1	896.3	967.2	889.6	815.3

Cal yr 1966..... +48,300
Wat yr 1967..... +187,000

+ Elevation, in feet, at end of month.
* Change in contents, in acre-feet.

11-3995. NORTH FORK FEATHER RIVER NEAR PRATTVILLE, CALIF.

LOCATION.--Lat 40°10'10", long 121°05'29", in NE¼SW¼ sec.28, T.27 N., R.8 E., on left bank 0.5 mile downstream from Almanor Dam, 4.5 miles southeast of Prattville, and 9 miles upstream from Butt Creek.

DRAINAGE AREA.--493 sq mi.

RECORDS AVAILABLE.--June 1905 to September 1967 (daily discharges for July 1921 to September 1936 include water diverted through Almanor-Butt Creek tunnel). Records for water year 1911 incomplete, yearly estimate published in WSP 1315-A. Published as "below Prattville" prior to 1911. Supplemental records for Almanor-Butt Creek tunnel diversion computed November 1924 to Dec. 30, 1958, as difference of flow between Butt Creek above Almanor-Butt Creek tunnel, (unpublished prior to 1936 and since 1964), and Butt Creek below Almanor-Butt Creek tunnel (unpublished prior to 1936 and 1960-64).

GAGE.--Digital water-stage recorder and broad-crested weir. Altitude of gage is 4,380 ft (from topographic map). Prior to Oct. 1, 1936, staff gages or water-stage recorders at several sites within half a mile of present site at various datums. Oct. 1, 1936 to Mar. 16, 1967, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--62 years, 892 cfs (645,800 acre-ft per year), adjusted for diversion and leakage.

EXTREMES.--Maximum daily discharge during year, 40 cfs Sept. 23-25, 27, 29, 30; minimum daily, 4.5 cfs Oct. 27, 31. Extremes do not include diversions through Butt Valley powerhouse and leakage from Almanor-Butt Creek tunnel No. 1.

1905-67: Maximum discharge, 10,000 cfs Mar. 19, 1907, before construction of dam (gage height, 16.2 ft, at former site), from rating curve extended above 3,700 cfs; no flow Apr. 15, 16, 1914, at times January to April 1919, Apr. 21, 1923.

REMARKS.--Records good. Flow regulated by Lake Almanor (see sta. no. 3990) and Mountain Meadows Reservoir since 1924 (capacity, 24,000 acre-ft). Water diverted for power from Lake Almanor through old Almanor-Butt Creek tunnel to Butt Creek until Dec. 30, 1958. Diversion through new tunnel and Butt Valley powerhouse began Dec. 31, 1958. See schematic diagram of North Fork Feather River basin.

COOPERATION.--Gage-height record, 11 discharge measurements, and diversion through Butt Valley powerhouse furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	36	4.7	35	35	34	33	34	36	38	35	35	35
2	35	16	35	35	34	33	33	36	38	35	35	35
3	35	35	35	35	34	33	34	36	38	35	35	35
4	35	35	36	35	34	33	34	36	38	35	35	35
5	35	35	36	35	34	33	34	36	38	35	35	35
6	35	35	36	35	34	33	34	37	38	35	35	37
7	36	35	36	35	34	33	34	37	38	35	35	39
8	36	35	36	35	34	33	34	38	38	35	35	39
9	36	35	36	35	34	33	34	38	38	35	35	39
10	36	35	36	34	34	33	34	38	38	35	35	39
11	36	35	36	34	33	33	34	38	38	35	35	39
12	36	35	36	34	33	33	34	38	36	35	35	39
13	36	35	36	34	33	33	34	37	34	35	34	39
14	36	35	36	34	33	33	34	37	34	35	34	39
15	36	36	36	34	33	33	34	37	34	35	34	39
16	36	35	36	34	33	34	34	37	34	35	34	39
17	26	35	36	33	33	34	34	38	34	35	34	39
18	5.6	35	36	33	33	34	34	37	34	35	34	39
19	5.0	36	36	33	33	34	34	37	35	35	34	39
20	5.0	36	36	33	33	34	34	37	35	35	34	39
21	5.0	35	36	34	33	34	34	37	35	35	34	39
22	5.0	35	36	34	33	34	34	37	35	35	34	39
23	4.9	35	36	34	33	35	34	37	35	35	34	40
24	5.0	35	36	34	33	34	35	37	35	35	33	40
25	5.3	35	36	34	33	34	36	38	35	35	33	40
26	4.9	35	36	34	33	33	36	38	35	35	34	39
27	4.5	35	36	34	33	34	36	38	35	35	35	40
28	4.7	36	36	34	33	34	36	38	35	35	35	39
29	4.9	36	36	36	-----	34	36	38	35	35	35	40
30	4.7	36	36	35	-----	34	36	38	35	35	35	40
31	4.5	-----	36	35	-----	34	-----	38	-----	35	35	-----
TOTAL	666.0	1,006.7	1,113	1,063	934	1,039	1,032	1,155	1,078	1,085	1,069	1,154
MEAN	21.5	33.6	35.9	34.3	33.4	33.5	34.4	37.3	35.9	35.0	34.5	36.5
MAX	36	36	36	36	34	35	36	38	38	35	35	40
MIN	4.5	4.7	35	33	33	33	33	36	34	35	33	35
AC-FT	1,320	2,000	2,210	2,110	1,850	2,060	2,050	2,290	2,140	2,150	2,120	2,290
MEAN†	449	258	736	1,375	738	534	317	185	89.1	1,734	1,906	1,748
AC-FT†	27,580	15,360	45,280	84,560	40,990	32,830	18,830	11,400	5,300	106,600	117,200	104,000
CAL YR 1966: TOTAL	12,442.7											
MEAN	34.1											
MAX	37											
MIN	4.5											
AC-FT	24,680											
WAT YR 1967: TOTAL	12,394.7											
MEAN	34.0											
MAX	40											
MIN	4.5											
AC-FT	24,580											
MEAN†	613											
AC-FT†	443,800											
MEAN†	842											
AC-FT†	610,000											

† Adjusted for diversion through Butt Valley powerhouse and leakage from Almanor-Butt Creek tunnel No. 1.

SACRAMENTO RIVER BASIN

11-4005. BUTT CREEK BELOW ALMANOR-BUTT CREEK TUNNEL, NEAR PRATTVILLE, CALIF.

LOCATION.--Lat 40°11'12", long 121°11'11", in NW¼ sec.22, T.27 N., R.7 E., on right bank 400 ft downstream from outlet of old tunnel from Lake Almanor to Butt Creek and 2.2 miles southwest of Prattville.

DRAINAGE AREA.--69.3 sq mi (revised).

RECORDS AVAILABLE.--October 1936 to September 1959, October 1964 to September 1967. Published as "below Tunnel No. 1" 1938-40. Records for water years 1937-38 published in WSP 1515.

GAGE.--Digital water-stage recorder and concrete control. Altitude of gage is 4,400 ft (from topographic map). Prior to Oct. 5, 1937, at site 200 ft downstream at datum 4 ft lower. Oct. 5, 1937 to Mar. 14, 1967, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE (natural flow of Butt Creek).--31 years, 79.4 cfs (57,480 acre-ft per year), adjusted for leakage from Almanor-Butt Creek tunnel No. 1.

EXTREMES.--Maximum discharge during year, 758 cfs May 23 (gage height, 2.62 ft); minimum daily, 51 cfs Oct. 4, 5.

1936-59, 1964-67: Maximum discharge, 3,830 cfs Dec. 23, 1964 (gage height, 5.87 ft), from rating curve extended above 1,400 cfs; minimum daily, 30 cfs Dec. 1, 2, 1936.

REMARKS.--Records good. No regulation above station. Wallack ditch, above station, diverts several cubic feet per second during each irrigation season into Yellow Creek basin. Leakage from Almanor-Butt Creek tunnel No. 1 was 13,390 acre-ft during 1967 water year. See schematic diagram of North Fork Feather River basin.

COOPERATION.--Gage-height record, 14 discharge measurements and records for Almanor-Butt Creek tunnel No. 1 furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	52	55	148	66	193	94	124	99	307	112	63	54
2	52	55	135	65	164	90	119	110	264	106	63	54
3	52	55	125	68	145	94	121	122	247	103	63	54
4	51	54	111	68	138	86	118	135	254	100	63	55
5	51	54	145	66	130	88	114	144	254	97	63	55
6	52	66	133	66	123	88	113	168	244	96	64	56
7	52	65	111	69	121	92	111	232	253	90	64	56
8	54	61	105	66	116	98	112	330	248	91	64	55
9	54	57	98	61	113	105	117	387	257	89	63	55
10	54	57	94	60	111	113	118	352	247	86	63	55
11	54	61	94	60	111	103	112	278	250	84	63	55
12	54	77	98	60	116	103	112	252	258	82	62	55
13	54	66	103	60	123	116	119	275	244	82	62	55
14	54	65	105	60	123	116	117	319	224	80	62	54
15	54	88	92	60	116	102	112	383	218	79	62	54
16	54	150	86	60	111	265	108	464	216	83	61	55
17	55	73	84	61	115	296	108	535	214	80	61	56
18	54	65	80	60	112	226	110	570	255	76	61	58
19	54	140	80	63	108	191	104	535	276	74	60	58
20	55	273	79	68	106	178	100	548	222	73	59	57
21	55	118	75	116	104	188	104	635	202	71	58	56
22	55	90	77	173	96	189	98	635	185	70	58	56
23	55	79	77	140	94	238	95	658	171	69	57	56
24	55	73	75	113	94	191	97	650	161	69	57	56
25	55	69	73	107	94	171	97	566	152	67	58	56
26	55	69	69	98	92	158	96	509	141	67	59	55
27	55	68	69	103	92	154	100	467	133	67	57	55
28	55	86	77	184	90	155	95	428	129	66	56	55
29	55	135	73	458	-----	142	92	396	123	65	56	55
30	55	98	69	315	-----	136	94	360	118	65	56	55
31	55	-----	68	238	-----	132	-----	329	-----	64	54	-----
TOTAL	1,671	2,522	2,908	3,312	3,251	4,498	3,237	11,871	6,467	2,503	1,872	1,661
MEAN	53.9	84.1	93.8	107	116	145	108	383	216	80.7	60.4	55.4
MAX	55	273	148	458	193	296	124	658	307	112	64	58
MIN	51	54	68	60	90	86	92	99	118	64	54	54
AC-FT	3,310	5,000	5,770	6,570	6,450	8,920	6,420	23,550	12,830	4,960	3,710	3,290

CAL YR 1966: TOTAL 30,422 MEAN 83.3 MAX 273 MIN 48 AC-FT 60,340
WAT YR 1967: TOTAL 45,773 MEAN 125 MAX 658 MIN 51 AC-FT 90,790

11-4011.25. INDIAN CREEK NEAR BOULDER CREEK GUARD STATION, NEAR TAYLORSVILLE, CALIF.

LOCATION.--Lat 40°10'00", long 120°36'57", in NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.27, T.27 N., R.12 E., on right bank 1.0 mile upstream from Cold Stream, 2.2 miles south of Boulder Creek Guard Station, 11 miles northeast of Genesee, and 13.5 miles northeast of Taylorsville.

DRAINAGE AREA.--70.8 sq mi.

RECORDS AVAILABLE.--October 1965 to September 1967. June 1961 to September 1965 in reports of California Department of Water Resources.

GAGE.--Digital water-stage recorder and concrete control. Altitude of gage is 4,800 ft (from topographic map). Prior to Aug. 1, 1967, graphic water-stage recorder at same site and datum.

EXTREMES.--Maximum discharge during year, 828 cfs May 24 (gage height, 6.31 ft); minimum daily, 10 cfs for several days in October and November.
1965-67: Maximum discharge, 828 cfs May 24, 1967 (gage height, 6.31 ft); minimum daily, 3.7 cfs Sept. 14-18, 1966.

REMARKS.--Flow regulated by Antelope Lake (capacity, 22,500 acre-ft) since Nov. 25, 1963 and storage in Taylor Lake since 1929 (capacity, 380 acre-ft). Some diversions for irrigation upstream. See schematic diagram for North Fork Feather River basin.

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

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	10	11	11	11	12	12	91	57	362	76	17	12
2	10	10	11	11	12	12	82	60	321	70	16	12
3	10	10	11	11	12	12	79	67	305	65	15	12
4	10	10	11	11	12	12	77	76	313	58	14	12
5	10	10	12	11	12	12	74	89	345	54	14	12
6	10	11	12	11	12	12	74	106	358	49	13	12
7	10	11	11	11	12	12	74	136	337	48	12	12
8	10	11	11	11	12	12	73	187	337	44	12	12
9	10	10	11	11	12	12	74	248	329	42	12	12
10	11	10	11	11	12	12	81	290	333	45	11	12
11	11	10	11	11	12	12	77	261	317	45	11	12
12	11	10	11	11	12	16	76	227	325	42	11	12
13	11	10	11	11	12	26	77	205	345	40	11	12
14	11	10	11	11	12	34	82	208	309	36	11	12
15	11	11	11	11	12	34	79	238	282	34	11	12
16	11	11	11	11	12	68	74	309	261	42	11	12
17	11	10	11	11	12	128	76	403	248	47	11	12
18	11	10	11	11	12	153	84	488	232	42	13	12
19	11	11	11	11	12	149	77	537	215	37	11	12
20	11	11	11	11	12	137	71	560	198	34	11	11
21	11	11	11	14	12	130	68	615	182	31	11	12
22	11	11	11	13	11	134	65	726	167	28	11	12
23	11	11	11	12	11	145	62	769	151	26	11	12
24	11	11	11	12	11	147	65	783	139	24	11	12
25	11	11	11	12	11	136	64	726	126	23	11	12
26	11	11	11	12	11	125	62	633	116	22	11	12
27	11	11	11	12	11	114	62	566	106	20	11	12
28	11	11	11	12	11	112	61	515	98	20	11	12
29	11	11	11	16	---	110	60	462	89	20	12	12
30	11	11	11	14	---	104	58	413	81	19	12	12
31	11	---	11	13	---	98	---	385	---	18	12	---
Total	332	318	343	362	329	2,232	2,179	11,345	7,327	1,201	372	359
Mean	10.7	10.6	11.1	11.7	11.8	72.0	72.6	379	244	38.7	12.0	12.0
Max	11	11	12	16	12	153	91	783	362	76	17	12
Min	10	10	11	11	11	12	58	57	81	18	11	11
Ac-ft	659	631	680	718	653	4,430	4,320	22,500	14,530	2,380	738	712
Cal yr 1966: Total	6,366.2		Mean	17.4	Max	114	Min	3.7	Ac-ft	12,630		
Wtr yr 1967: Total	26,699		Mean	73.1	Max	783	Min	10	Ac-ft	52,960		

SACRAMENTO RIVER BASIN

11-4011.8. LITTLE GRIZZLY CREEK NEAR GENESEE, CALIF.

LOCATION.--Lat 40°00'55", long 120°45'10", in NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.21, T.25 N., R.11 E., on right bank 2.5 miles upstream from Indian Creek, and 2 miles south of Genesee.

DRAINAGE AREA.--29.6 sq mi.

RECORDS AVAILABLE.--August 1964 to September 1967.

GAGE.--Digital water-stage recorder. Altitude of gage is 4,180 ft (from topographic map). Prior to Nov. 19, 1966, graphic water-stage recorder at same site and datum.

EXTREMES.--Maximum discharge during year, 876 cfs May 23 (gage height, 4.96 ft); minimum daily, 3.7 cfs Oct. 1, 2, 11.

1964-67: Maximum discharge, 1,600 cfs Dec. 23, 1964 (gage height, 5.90 ft), from rating curve extended above 200 cfs on basis of slope-area measurement of maximum flow; minimum daily, 3.5 cfs Sept. 10, 11, 30, 1966.

REMARKS.--Records good. Records of water temperatures for the water year 1967 are published in Part 2 of this report. See schematic diagram for North Fork Feather River basin.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	3.7	4.3	38	11	90	25	44	29	269	110	18	11
2	3.7	4.3	47	10	65	26	41	32	223	99	18	11
3	3.8	4.3	47	10	53	27	39	36	215	89	17	11
4	3.8	4.3	37	10	45	25	39	42	218	79	17	12
5	3.8	4.3	75	10	41	24	38	44	255	72	16	12
6	3.8	7.0	47	9.3	37	24	37	43	273	65	16	11
7	3.8	6.2	32	11	34	24	36	69	300	59	16	11
8	4.0	5.7	25	9.7	33	25	37	124	335	54	15	11
9	3.8	5.3	22	9.7	31	27	39	166	361	50	15	10
10	3.8	5.0	22	9.5	31	29	40	147	382	46	15	10
11	3.7	6.0	21	9.6	30	28	38	113	370	43	15	10
12	3.8	6.2	21	9.6	33	28	37	95	368	40	14	10
13	4.0	6.2	23	9.5	39	27	38	90	338	37	14	10
14	4.0	6.4	28	9.5	41	26	39	104	313	35	14	9.8
15	4.3	13	26	9.6	38	27	36	148	311	34	13	9.8
16	4.3	24	24	9.8	34	234	34	230	324	34	13	9.7
17	4.3	11	21	9.3	32	278	34	315	339	32	13	10
18	4.2	9.2	20	9.9	31	189	35	361	366	30	13	12
19	4.2	12	18	9.6	29	134	33	402	371	28	13	11
20	4.3	56	17	16	27	106	32	465	338	27	12	10
21	4.3	25	17	230	26	98	32	583	307	25	12	9.8
22	4.3	17	16	100	25	99	31	647	266	24	12	10
23	4.3	14	15	48	25	111	31	680	228	24	12	10
24	4.3	11	15	35	25	99	31	696	204	23	12	9.8
25	4.2	10	14	27	25	82	30	580	187	22	13	9.3
26	4.0	10	14	23	23	71	30	519	172	21	14	9.0
27	4.2	9.5	12	26	23	63	30	510	156	20	12	8.9
28	4.3	26	12	105	24	59	29	463	143	20	12	8.8
29	4.3	56	13	500	-----	54	29	426	131	20	11	8.8
30	4.3	37	12	350	-----	50	28	384	120	19	11	8.7
31	4.3	-----	11	160	-----	48	-----	339	-----	18	11	-----
TOTAL	125.9	416.2	762	1,806.6	990	2,167	1,047	8,882	8,183	1,299	429	305.4
MEAN	4.06	13.9	24.6	58.3	35.4	69.9	34.9	287	273	41.9	13.8	10.2
MAX	4.3	56	75	500	90	278	44	696	382	110	18	12
MIN	3.7	4.3	11	9.3	23	24	28	29	120	18	11	8.7
AC-FT	250	826	1,510	3,580	1,960	4,300	2,080	17,620	16,230	2,580	851	606

CAL YR 1966: TOTAL 9,674.9 MEAN 26.5 MAX 176 MIN 3.5 AC-FT 19,190
WAT YR 1967: TOTAL 26,413.1 MEAN 72.4 MAX 696 MIN 3.7 AC-FT 52,390

Peak discharge (base, 300 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
1-21	1600	3.79	406	5-23	1745	4.96	876
1-29	1800	4.51	705	6-09	2045	4.16	489
3-16	1945	3.65	358	6-18	1845	4.06	451

11-4012. INDIAN CREEK NEAR TAYLORSVILLE, CALIF.

LOCATION.--Lat 40°02'55", long 120°48'55", in SE¼NW¼ sec.12, T.25 N., R.10 E., on right bank 0.3 mile upstream from Montgomery Creek and 2.3 miles southeast of Taylorsville.

DRAINAGE AREA.--526 sq mi.

RECORDS AVAILABLE.--May 1957 to September 1967.

GAGE.--Digital water-stage recorder. Altitude of gage is 3,580 ft (from topographic map). Prior to Oct. 22, 1963, graphic water-stage recorder at site 1.0 mile downstream at different datum. Oct. 23, 1963, to Nov. 30, 1966, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--10 years, 358 cfs (259,200 acre-ft per year).

EXTREMES.--Maximum discharge during year, 5,780 cfs Mar. 17 (gage height, 12.03 ft); minimum daily, 36 cfs Oct. 1, 5.

1957-67: Maximum discharge, 30,200 cfs Feb. 1, 1963 (gage height, 10.65 ft, site and datum then in use), from rating curve extended above 3,000 cfs on basis of slope-area measurements at gage heights 10.3 and 10.65 ft; minimum daily, 13 cfs Aug. 2-4, 1961.

Flood of Dec. 23, 1955, reached a stage of 11.5 ft from floodmarks, site and datum then in use (discharge, unknown).

REMARKS.--Flow regulated by Antelope Lake (capacity, 22,500 acre-ft) beginning Nov. 25, 1963 and storage in Taylor Lake since 1929 (capacity, 380 acre-ft). Some diversions for irrigation upstream. See schematic diagram for North Fork Feather River basin.

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

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	36	50	264	110	1,350	478	839	549	1,650	443	100	57
2	37	49	348	99	1,030	530	745	662	1,550	408	96	56
3	37	49	395	104	856	548	735	810	1,610	375	93	56
4	37	49	333	105	741	471	749	1,040	1,650	337	90	59
5	36	49	655	107	657	431	682	1,220	1,810	307	82	64
6	37	64	512	82	592	416	660	1,290	2,080	286	79	62
7	37	72	384	99	559	430	674	1,760	1,770	267	77	60
8	37	65	313	94	526	453	709	2,400	1,730	252	77	58
9	37	61	269	91	507	519	879	3,060	1,720	236	75	56
10	37	58	287	93	503	647	981	2,970	1,810	219	73	56
11	38	58	270	91	491	546	847	2,230	1,620	213	71	54
12	38	58	255	91	532	495	751	1,970	1,750	201	70	54
13	37	58	274	90	659	459	895	1,820	1,960	191	69	56
14	39	58	326	89	709	478	1,000	1,840	1,610	180	66	54
15	40	72	286	89	609	459	893	2,130	1,480	171	66	53
16	40	137	251	88	582	2,350	763	2,590	1,400	180	63	53
17	40	96	227	80	547	4,940	775	3,090	1,350	242	62	56
18	40	80	206	89	531	3,420	810	3,470	1,310	201	61	62
19	42	77	192	86	513	2,290	812	3,440	1,250	174	64	61
20	41	241	183	123	462	1,820	692	3,490	1,210	159	59	61
21	41	215	174	1,240	434	1,810	685	3,650	1,090	153	58	57
22	41	159	160	897	425	1,920	650	3,720	971	147	57	58
23	42	119	157	494	413	2,040	613	3,480	866	140	56	59
24	44	106	163	431	417	1,800	630	3,270	789	133	57	57
25	44	96	140	354	410	1,540	624	2,810	738	126	59	56
26	48	96	137	330	379	1,310	593	2,460	675	115	63	56
27	48	89	132	361	381	1,150	615	2,290	616	110	60	55
28	48	134	106	709	402	1,260	608	2,110	567	107	60	53
29	50	360	126	2,700	---	1,110	584	1,910	527	105	59	54
30	49	335	125	2,390	---	1,000	555	1,720	485	101	58	55
31	50	---	109	1,830	---	920	---	1,670	---	100	58	---
Total	1,268	3,210	7,764	13,636	16,217	38,040	22,048	70,821	39,644	6,379	2,138	1,708
Mean	40.9	107	250	440	579	1,227	735	2,285	1,321	206	69.0	56.9
Max	50	360	655	2,700	1,350	4,940	1,000	3,720	2,080	443	100	64
Min	36	49	106	80	379	416	555	549	485	100	56	53
Ac-ft	2,520	6,370	15,400	27,050	32,170	75,450	43,730	140,500	78,630	12,650	4,240	3,390
Cal yr 1966: Total	62,023			Mean 170	Max 843	Min 26	Ac-ft 123,000					
Wtr yr 1967: Total	222,873			Mean 611	Max 4,940	Min 36	Ac-ft 442,100					

SACRAMENTO RIVER BASIN

11-4015. INDIAN CREEK NEAR CRESCENT MILLS, CALIF.

LOCATION.--Lat 40°04'20", long 120°55'35", in SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.25, T.26 N., R.9 E., on left bank 0.8 mile upstream from Dixie Creek and 1.5 miles south of Crescent Mills.

DRAINAGE AREA.--739 sq mi.

RECORDS AVAILABLE.--January 1906 to December 1909, September 1911 to March 1918, October 1930 to September 1967.

GAGE.--Graphic water-stage recorder. Altitude of gage is 3,500 ft (from topographic map). Prior to March 1918, staff gage at site 800 ft upstream at different datum.

AVERAGE DISCHARGE.--46 years (1906-9, 1911-17, 1930-67), 541 cfs (391,700 acre-ft per year).

EXTREMES.--Maximum discharge during year, 6,670 cfs Jan. 30 and Mar. 18 (gage height, 10.32 ft); minimum daily, 17 cfs Oct. 7.

1906-9, 1911-18, 1930-67: Maximum discharge observed, 25,000 cfs Mar. 19, 1907 (gage height, 20.2 ft, site and datum then in use); minimum, 1.7 cfs Aug. 25, 1931.

REMARKS.--Records good. Natural flow affected by storage in Round Valley Reservoir since 1865 (capacity, 5,000 acre-ft), Taylor Lake since 1929 (capacity, 380 acre-ft), and Antelope Lake since November 1963 (capacity, 22,500 acre-ft). Diversions above station for irrigation of about 11,800 acres, of which 9,700 acres is in Indian and Genesee Valleys. See schematic diagram for North Fork Feather River basin. Records of chemical analyses and water temperatures at or near this gaging station for the water year 1967 are published in Part 2 of this report.

REVISIONS (water years).--1965 report: 1956(M), 1958(M).

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	21	62	524	194	3,780	712	1,350	830	2,460	584	89	42
2	20	62	850	180	2,380	768	1,180	935	2,170	520	85	42
3	18	62	1,140	178	1,650	900	1,150	1,110	2,130	472	83	43
4	19	66	905	180	1,370	724	1,150	1,410	2,230	425	77	46
5	18	62	1,910	184	1,200	672	1,090	1,650	2,280	374	71	48
6	18	84	1,270	147	1,090	644	1,060	1,750	2,810	323	64	47
7	17	101	935	148	1,020	652	1,120	2,320	2,580	308	62	48
8	20	87	764	150	950	676	1,090	3,300	2,440	282	60	45
9	25	81	616	147	900	744	1,240	4,400	2,450	254	54	43
10	26	78	644	147	880	930	1,370	4,300	2,280	232	57	45
11	24	76	596	145	865	1,100	1,260	3,600	2,240	224	57	49
12	25	78	532	145	915	890	1,120	3,000	2,310	212	56	49
13	26	79	588	145	1,110	810	1,220	2,750	2,160	206	54	44
14	30	78	712	143	1,260	805	1,370	2,750	2,210	194	51	45
15	31	100	624	143	1,060	784	1,270	2,950	1,990	184	50	48
16	33	260	524	145	962	2,930	1,100	3,600	1,870	212	43	50
17	33	190	460	140	885	6,000	1,090	4,100	1,770	300	40	49
18	33	143	404	145	835	6,350	1,190	4,700	1,720	240	38	38
19	33	159	374	145	800	5,000	1,230	5,000	1,670	202	34	33
20	34	704	350	240	740	3,700	1,050	5,100	1,620	184	31	31
21	38	720	326	2,870	692	3,060	1,030	5,290	1,470	169	31	31
22	40	532	300	4,270	676	3,010	992	5,420	1,270	158	30	33
23	40	280	288	1,910	660	3,210	930	5,450	1,150	152	34	31
24	39	206	292	1,040	660	3,200	950	5,320	1,030	132	25	30
25	67	176	264	820	664	2,690	968	4,900	956	115	36	34
26	62	166	250	732	620	2,100	925	4,180	870	107	41	44
27	48	154	234	752	608	1,770	950	3,660	764	103	48	40
28	51	202	208	1,580	632	1,810	940	3,260	720	99	44	46
29	51	604	218	4,960	---	1,670	900	2,860	676	99	43	43
30	53	600	218	6,340	---	1,560	855	2,480	628	96	42	47
31	64	---	198	5,340	---	1,460	---	2,310	---	95	42	---
Total	1,057	6,252	17,518	33,805	29,864	61,231	33,140	104,685	52,924	7,256	1,572	1,260
Mean	34.1	208	565	1,090	1,067	1,975	1,105	3,377	1,764	234	50.7	42.0
Max	67	720	1,910	6,340	3,780	6,350	1,370	5,450	2,810	584	89	50
Min	17	62	198	140	608	644	855	830	628	95	25	30
Ac-ft	2,100	12,400	34,750	67,050	59,230	121,400	65,730	207,600	105,000	14,390	3,120	2,500

Cal yr 1966: Total 104,504.7 Mean 286 Max 1,910 Min 9.2 Ac-ft 207,300
Wtr yr 1967: Total 350,564 Mean 960 Max 6,350 Min 17 Ac-ft 695,300

Peak discharge (base, 1,100 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-02	2345	5.70	1,380	2-14	0700	5.62	1,320
12-05	1530	6.67	2,110	3-11	0600	5.48	1,240
1-22	0400	9.11	4,870	3-18	0400	10.32	6,670
1-30	0500	10.32	6,670	5-23	1400	9.60	5,560

11-4019.4. MILL CREEK NEAR QUINCY, CALIF.

LOCATION.--Lat 39°56'03", long 120°54'18", in NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec.19, T.24 N., R.10 E., on left bank at culvert on State Highways 70 and 89, 2.2 miles east of Quincy.

DRAINAGE AREA.--6.72 sq mi.

RECORDS AVAILABLE.--Water years 1963-65 (annual maximum), October 1965 to September 1967.

GAGE.--Graphic water-stage recorder, crest-stage gage, and float operated rain gage. Altitude of gage is 3,500 ft (from topographic map).

EXTREMES.--Maximum discharge during year, 326 cfs Jan. 29 (gage height, 4.64 ft); no flow for many days.
1962-67: Maximum discharge, 601 cfs Dec. 22, 1964 (gage height, 7.02 ft), from rating curve extended above 220 cfs on basis of computation of flow through culvert at gage heights 5.53 and 7.02 ft.

REMARKS.--Records poor. No storage or diversion above station.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0	6.5	2.1	50	4.7	11	7.1	36	10		
2	0	0	10	2.1	27	4.7	11	7.8	30	8.5		
3	0	0	4.4	2.1	17	4.7	10	3.5	27	8.1		
4	.20	0	3.5	2.1	12	4.2	10	10	26	7.8		
5	.10	0	4.1	1.9	9.5	3.7	10	11	27	7.8		
6	0	.70	20	1.8	3.5	3.5	10	12	27	7.1		
7	0	.40	10	1.8	3.1	3.2	10	17	28	7.1		
8	0	.20	7.4	1.8	7.4	3.2	10	26	28	6.7		
9	0	.10	5.8	1.8	7.1	3.2	10	30	28	6.3		
10	0	0	6.0	1.8	6.7	3.9	10	30	28	6.0		
11	0	.20	5.5	1.9	6.7	4.7	9.0	24	28	5.6		
12	0	.50	5.0	2.1	6.7	4.7	8.5	21	28	4.7		
13	0	.30	5.3	2.1	7.4	4.2	9.0	19	28	4.4		
14	0	.40	5.6	2.1	7.8	3.9	10	21	27	4.7		
15	0	1.7	4.4	2.1	7.4	4.7	9.0	27	26	5.6		
16	0	5.9	4.4	2.1	7.1	4.2	8.5	36	26	6.0		
17	0	2.5	4.4	2.1	6.3	5.4	9.0	42	26	1.9		
18	0	1.9	4.2	2.1	6.3	3.2	8.5	47	27	.70		
19	0	3.9	3.9	2.1	6.0	2.3	8.1	49	26	0		
20	0	7.7	3.9	4.4	5.6	1.9	7.8	56	26	0		
21	0	3.7	3.7	80	5.3	1.9	7.8	63	23	0		
22	0	1.8	3.5	56	4.9	1.9	7.8	67	22	0		
23	0	1.1	3.2	18	4.9	4.0	7.8	68	19	0		
24	0	.80	3.0	12	4.9	2.6	7.8	69	16	0		
25	0	.60	3.0	10	4.9	2.0	7.8	63	15	0		
26	0	.60	2.7	30	4.9	1.7	7.8	60	13	0		
27	0	.50	2.7	9.4	4.9	1.5	7.8	57	12	0		
28	0	3.5	2.5	35	4.7	1.5	7.4	54	12	0		
29	.10	6.4	2.5	110	-----	1.4	7.1	54	11	0		
30	0	3.5	2.3	54	-----	1.3	7.1	47	10	0		
31	0	-----	2.1	73	-----	1.2	-----	41	-----	0		-----
Total	0.40	48.90	192.4	507.8	260.0	441.2	265.6	1144.4	706	109.00	0	0
Mean	0.01	1.63	6.21	15.4	9.29	14.2	8.85	36.9	23.5	3.52	0	0
Max	0.20	7.7	41	110	50	54	11	69	36	10	0	0
Min	0	0	2.1	1.8	4.7	3.2	7.1	7.1	10	0	0	0
Ac-ft	0.8	97	382	1010	516	875	527	2270	1400	216	0	0
(†)	0	10.86	9.17	15.19	0.45	7.70	2.98	1.73	1.38	0	0	0

Calendar year 1966 Total 1,005.8 Mean 2.76 Max 41 Min 0 Ac-ft 1,990

Water year 1966-67 Total 3,675.70 Mean 10.1 Max 110 Min 0 Ac-ft 7,290

† Precipitation, in inches. Some precipitation falling as snow may not be included.

SACRAMENTO RIVER BASIN

11-4020. SPANISH CREEK ABOVE BLACKHAWK CREEK, AT KEDDIE, CALIF.

LOCATION.--Lat 40°00'05", long 120°57'20", in NE¼ sec.27, T.25 N., R.9 E., on right bank 200 ft upstream from Blackhawk Creek and 0.9 mile southeast of Keddle.

DRAINAGE AREA.--184 sq mi.

RECORDS AVAILABLE.--October 1933 to September 1967. Prior to October 1953, published as "at Keddle." Records for October 1911 to September 1933 at site 1.2 miles downstream not equivalent owing to inflow.

GAGE.--Digital water-stage recorder. Altitude of gage is 3,250 ft (from topographic map). Prior to Dec. 12, 1963, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--34 years, 261 cfs (189,000 acre-ft per year).

EXTREMES.--Maximum discharge during year, 9,000 cfs Jan. 29 (gage height, 10.30 ft), from rating curve extended above 4,400 cfs as explained below; minimum daily, 20 cfs Oct. 1.
1933-67: Maximum discharge, 15,400 cfs Dec. 22, 1964 (gage height, 13.53 ft), from rating curve extended above 4,400 cfs on basis of slope-area measurement at gage height 12.47 ft; minimum, 3.8 cfs Aug. 12, 1934.

REMARKS.--Records excellent. Flow regulated by five small reservoirs having a combined capacity of 800 acre-ft. Approximately 4,600 acres irrigated above station (from information furnished by U.S. Forest Service). City of Quincy diverts about 450 acre-ft annually for municipal supply. See schematic diagram for North Fork Feather River basin.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	20	35	484	108	1,450	249	505	317	805	211	63	37
2	22	35	983	105	958	255	460	353	666	197	61	34
3	25	35	1,020	103	734	259	455	421	605	187	64	40
4	25	37	691	103	609	239	460	511	616	174	67	40
5	24	38	2,160	105	540	220	442	562	649	159	62	39
6	24	64	901	96	490	212	510	585	636	150	56	34
7	25	82	594	97	451	214	560	786	648	146	52	36
8	26	60	462	95	419	220	505	1,130	678	139	47	35
9	26	52	358	93	391	233	505	1,310	664	132	44	37
10	27	50	375	93	386	296	515	1,210	657	121	45	43
11	30	51	351	93	381	594	485	871	637	122	46	43
12	28	52	306	93	415	419	432	765	649	114	42	41
13	28	54	354	92	511	364	432	705	638	107	37	41
14	30	52	427	92	580	327	465	768	578	102	42	41
15	30	95	329	93	467	320	424	998	561	101	46	41
16	31	346	275	95	404	3,230	383	1,290	569	103	41	40
17	32	122	237	94	357	2,890	401	1,460	571	103	37	40
18	34	89	213	93	337	1,810	460	1,480	600	97	32	44
19	35	136	196	92	317	1,300	423	1,480	657	90	32	43
20	36	978	186	212	287	1,040	386	1,580	597	75	30	35
21	35	599	175	4,410	268	1,020	374	1,680	540	71	35	37
22	37	389	164	2,520	256	1,030	355	1,720	480	81	37	40
23	35	196	156	843	252	1,460	349	1,680	428	79	35	44
24	34	147	151	580	251	1,150	364	1,620	389	70	33	44
25	33	124	143	435	265	896	356	1,400	362	69	38	43
26	34	112	135	363	242	744	350	1,230	336	71	36	41
27	34	104	126	414	233	638	365	1,140	301	70	36	43
28	34	211	120	1,390	236	616	355	1,050	276	61	35	46
29	34	720	117	5,800	-----	580	327	943	259	51	30	42
30	34	362	115	2,850	-----	540	318	863	232	56	36	43
31	35	-----	111	2,620	-----	545	-----	831	-----	82	45	-----
TOTAL	937	5,427	12,415	24,272	12,487	23,910	12,721	32,739	16,284	3,391	1,342	1,207
MEAN	30.2	181	400	783	446	771	424	1,056	543	109	43.3	40.2
MAX	37	978	2,160	5,800	1,450	3,230	560	1,720	805	211	67	46
MIN	20	35	111	92	233	212	318	317	232	51	30	34
AC-FT	1,860	10,760	24,620	48,140	24,770	47,420	25,230	64,940	32,300	6,730	2,660	2,390

CAL. YR 1966: TOTAL 72,666 MEAN 199 MAX 2,160 MIN 11 AC-FT 144,100
WAT. YR 1967: TOTAL 147,132 MEAN 403 MAX 5,800 MIN 20 AC-FT 291,800

Peak discharge (base, 1,700 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-02	2230	5.62	2,170	3-16	2045	7.75	4,830
12-05	0630	6.34	3,000	3-23	1030	5.25	1,790
1-21	1945	9.95	8,370	5-21	2215	5.43	2,010
1-29	1000	10.30	9,000				

SACRAMENTO RIVER BASIN

863

11-4035. BUCKS LAKE NEAR BUCKS LODGE, CALIF.

LOCATION.--Lat 39°53'45", long 121°12'10", in NW¼ sec.33, T.24 N., R.7 E., in intake tower No. 2 upstream from dam on Bucks Creek, 2 miles northwest of Bucks Lodge, and 15 miles west of Quincy.

DRAINAGE AREA.--28.6 sq mi.

RECORDS AVAILABLE.--1927-28 (year-end contents only, published in WSP 1315-A), October 1928 to September 1967. Prior to October 1954 published as Bucks Creek Reservoir near Bucks Ranch.

GAGE.--Graphic water-stage recorder. Datum of gage is at mean sea level (levels by Feather River Power Co.).

EXTREMES.--Maximum contents during year, 105,300 acre-ft July 1, 2 (elevation, 5,156.8 ft); minimum, 37,100 acre-ft Jan. 19 (elevation, 5,113.7 ft).

1928-67: Maximum contents, 105,800 acre-ft June 23, 1938 (elevation, 5,157.1 ft); minimum, 12,330 acre-ft Feb. 27, 1929, (elevation, 5,090.7 ft).

REMARKS.--Reservoir is formed by concrete-faced, rock-fill dam completed in 1927; storage began in May 1927. Capacity, 101,700 acre-ft between elevations 5,064.75 (sill of outlet gate) and 5,154.85 ft (spillway crest) above mean sea level. Released water flows down Bucks Creek to Lower Bucks Lake, where it enters tunnel that discharges into Grizzly Creek, thence to Bucks Creek powerhouse. Figures given herein represent total contents, of which 274 acre-ft is not available for release. See schematic diagram of North Fork Feather River basin.

COOPERATION.--Record of contents furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project.

CAPACITY TABLE (ELEVATION, IN FEET, AND CONTENTS, IN ACRE-FEET)

5,064.75	274	5,100	21,200
5,066	388	5,105	26,600
5,068	635	5,110	32,500
5,070	977	5,115	38,800
5,072	1,440	5,120	45,500
5,075	2,400	5,125	52,500
5,080	4,740	5,130	60,000
5,085	7,920	5,140	75,900
5,090	11,700	5,150	93,000
5,095	16,200	5,160	111,200

CONTENTS, IN THOUSANDS OF ACRE-FEET, AT 2400 HOURS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	51.0	40.3	44.9	43.2	45.4	51.2	63.8	66.4	83.9	105.3	94.6	79.5
2	50.7	39.9	45.6	42.9	45.8	51.3	64.0	66.2	84.7	105.3	94.1	79.1
3	50.5	39.5	46.3	42.5	46.0	51.5	64.3	65.9	85.4	105.2	93.6	78.6
4	50.3	39.3	46.7	42.1	46.3	51.6	64.5	65.6	86.2	105.2	93.2	78.1
5	50.0	39.1	47.2	41.8	46.5	51.8	64.9	65.4	87.1	105.0	92.6	77.8
6	49.8	39.1	47.7	41.5	46.7	52.0	65.3	65.1	88.0	104.9	92.1	77.5
7	49.6	38.9	48.1	41.2	47.0	52.1	65.6	65.0	88.9	104.8	91.7	77.2
8	49.4	38.7	48.5	40.8	47.1	52.3	65.7	65.0	90.0	104.7	91.2	76.7
9	49.1	38.5	48.7	40.5	47.3	52.4	66.0	65.1	91.1	104.5	90.7	76.2
10	48.9	38.4	48.9	40.1	47.6	53.1	66.2	65.1	92.2	104.2	90.2	75.7
11	48.7	38.2	49.1	39.8	47.8	53.4	66.5	65.2	93.3	103.6	89.7	75.2
12	48.2	38.1	49.2	39.5	48.0	53.9	66.6	65.3	94.4	103.1	89.3	74.7
13	47.9	38.0	49.2	39.2	48.4	54.2	66.9	65.4	95.5	102.7	88.8	74.2
14	47.4	37.9	49.0	38.8	48.6	54.3	67.3	65.6	96.6	102.2	88.3	73.7
15	47.0	38.6	48.7	38.5	48.8	54.7	67.5	65.9	97.7	101.9	87.8	73.2
16	46.6	39.2	48.4	38.1	49.0	56.5	67.6	66.4	99.0	101.5	87.3	73.6
17	46.2	39.2	48.1	37.8	49.1	57.5	67.9	67.0	100.2	101.1	86.9	72.5
18	45.7	39.1	47.8	37.5	49.3	58.2	67.9	67.7	101.6	100.7	86.4	71.8
19	45.3	40.2	47.5	37.1	49.5	58.7	67.9	68.4	103.0	100.3	85.9	71.3
20	44.9	41.3	47.1	37.6	49.7	59.1	67.8	69.3	103.9	99.9	85.4	70.8
21	44.6	41.7	46.8	38.8	49.8	59.5	67.7	70.3	104.5	99.5	84.9	70.4
22	44.1	41.9	46.5	39.4	50.0	60.0	67.6	71.5	104.9	99.0	84.4	70.0
23	43.7	42.0	46.3	39.7	50.1	60.7	67.6	72.9	105.1	98.6	83.9	69.4
24	43.1	42.1	45.9	39.9	50.4	61.1	67.6	74.6	105.2	98.2	83.5	69.0
25	42.7	42.2	45.6	40.0	50.6	61.4	67.6	75.9	105.2	97.7	83.1	68.5
26	42.3	42.2	45.2	40.1	50.7	60.2	67.5	77.2	105.1	97.3	82.5	68.0
27	41.9	42.3	44.9	39.7	50.8	62.0	67.6	78.5	105.0	96.8	82.0	67.5
28	41.4	43.3	44.5	41.4	51.0	62.4	67.5	79.7	105.0	96.4	81.5	67.1
29	41.0	44.1	44.2	43.2	-----	62.7	67.1	80.9	104.9	95.9	81.1	66.6
30	40.7	44.4	43.9	44.3	-----	63.1	66.8	81.9	104.9	95.5	80.6	66.1
31	40.3	-----	43.6	45.0	-----	63.5	-----	83.1	-----	95.0	80.1	-----
(†)	5,116.2	5,119.2	5,118.6	5,119.7	5,123.9	5,132.3	5,134.4	5,144.3	5,156.6	5,151.2	5,142.5	5,134.0
(‡)	-10,800	+4,100	+800	+1,400	+6,000	+12,500	+3,300	+16,300	+21,800	-9,900	-14,900	-14,000
Max	51.1	44.4	49.2	45.0	51.0	63.5	67.9	83.1	105.2	105.3	94.6	79.5
Min	40.3	37.9	43.6	37.1	45.4	51.2	63.8	65.0	83.9	95.0	80.1	66.1

Cal yr 1966..... †+6,600
Wat yr 1967..... ‡+15,000

† Elevation, in feet, at end of month.
‡ Change in contents, in acre-feet.

SACRAMENTO RIVER BASIN

11-4045. NORTH FORK FEATHER RIVER AT PULGA, CALIF.

LOCATION.--Lat 39°47'40", long 121°27'00", in NE¼ sec.6, T.22 N., R.5 E., on left bank between railroad and highway bridges, 0.5 mile downstream from Flea Valley Creek and Pulga and 1.5 miles downstream from Poe Dam.

DRAINAGE AREA.--1,953 sq mi.

RECORDS AVAILABLE.--October 1910 to September 1967. Monthly discharge only for some periods and yearly estimates for water year 1911 and 1938, published in WSP 1315-A. Prior to October 1962, published as "at Big Bar."

GAGE.--Digital water-stage recorder. Datum of gage is 1,304.88 ft above mean sea level (levels by Pacific Gas and Electric Co.). Prior to Oct. 1, 1937, graphic water-stage recorder at site 1.1 miles upstream at different datum. Oct. 1, 1937, to Sept. 30, 1958, graphic water-stage recorder at present site at datum 5.00 ft higher. Oct. 1, 1958 to May 1, 1967, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--57 years, 2,913 cfs (2,109,000 acre-ft per year), including diversion through Poe power-plant.

EXTREMES.--Maximum discharge during year, 20,700 cfs Jan. 29 (gage height, 20.13 ft); minimum daily, 48 cfs Nov. 18.

1910-58 (prior to diversion to Poe powerhouse): Maximum discharge, 72,400 cfs Dec. 23, 1955 (gage height, 35.60 ft, present datum), from rating curve extended above 34,000 cfs; minimum daily, 235 cfs Oct. 31, 1932. 1958-67: Maximum discharge, 73,000 cfs Dec. 22, 1964 (gage height, 35.80 ft), from rating curve extended above 34,000 cfs; minimum daily, 33 cfs June 25, 1961.

REMARKS.--Records good. Flow regulated by Lake Almanor (see sta. no. 3990), Bucks Lake (see sta. no. 4035), Mountain Meadows Reservoir, Butt Valley Reservoir, and five forebays (combined capacity, 1,239,000 acre-ft). Diversion through Poe powerplant began on May 29, 1958. See schematic diagram of North Fork Feather River basin. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

COOPERATION.--Gage-height record and 14 discharge measurements furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	56	58	220	55	6,080	68	213	106	2,080	58	58	57
2	54	58	1,370	52	3,260	70	122	103	1,550	55	58	57
3	54	58	1,760	53	1,660	66	101	103	1,210	56	55	57
4	56	56	862	53	677	65	100	104	1,470	54	56	58
5	56	56	4,600	52	362	64	115	105	1,630	55	56	56
6	54	60	2,110	56	211	63	204	129	2,300	53	57	57
7	54	58	478	52	134	62	174	1,410	1,930	52	56	56
8	54	54	144	51	112	60	145	3,990	1,820	53	56	56
9	56	54	91	52	106	60	133	5,170	1,830	53	56	58
10	54	57	91	53	103	66	133	5,720	1,790	51	56	56
11	56	56	85	53	96	101	126	4,400	1,680	52	55	55
12	53	62	80	52	94	97	119	3,360	1,520	53	56	57
13	54	56	80	52	92	97	117	2,680	1,750	52	54	57
14	56	58	79	50	89	88	120	2,620	1,560	52	56	56
15	56	89	75	52	87	93	115	3,370	1,280	49	57	56
16	53	708	70	51	84	6,400	110	4,820	1,200	50	57	58
17	56	52	67	50	84	10,700	124	5,830	1,170	53	56	58
18	60	48	65	53	80	8,560	127	6,610	1,140	53	55	58
19	60	335	65	53	80	6,320	126	6,950	1,530	55	55	57
20	60	2,360	67	115	76	4,120	126	7,340	1,200	55	56	57
21	61	353	65	6,760	75	3,450	120	7,990	885	56	55	58
22	60	82	61	8,720	72	3,160	114	8,360	855	54	55	57
23	59	60	62	2,300	72	4,750	117	8,680	583	51	54	58
24	60	54	62	491	75	4,070	122	8,780	446	56	56	59
25	58	52	59	158	77	2,590	120	7,650	497	58	57	58
26	59	51	58	126	70	1,860	117	6,050	489	57	58	58
27	59	52	58	130	69	1,010	132	4,760	110	57	58	56
28	58	90	55	1,070	68	976	123	4,050	53	66	57	56
29	58	1,610	56	16,400	-----	667	117	3,290	54	58	57	60
30	58	110	55	12,700	-----	411	111	2,680	59	58	57	58
31	58	-----	57	11,200	-----	456	-----	2,180	-----	59	58	-----
TOTAL	1,760	6,907	13,107	61,165	14,145	60,620	3,843	129,390	35,671	1,694	1,743	1,715
MEAN	56.8	230	423	1,973	505	1,955	128	4,174	1,189	54.6	56.2	57.2
MAX	61	2,360	4,600	16,400	6,080	10,700	213	8,780	2,300	66	58	60
MIN	53	48	55	50	68	60	100	103	53	49	54	55
AC-FT	3,490	13,700	26,000	121,300	28,060	120,200	7,620	256,600	70,750	3,360	3,460	3,400
MEAN†	451	1,686	3,734	5,465	4,486	5,829	4,280	8,477	5,504	3,422	2,695	2,474
AC-FT†	27,700	100,300	229,600	336,000	249,100	358,400	254,600	564,600	327,400	210,400	165,700	147,200
CAL YR 1966: TOTAL	93,864			MEAN 257		MAX 4,600	MIN 48	AC-FT 186,200	MEAN† 2,135	AC-FT† 1,546,000		
WAT YR 1967: TOTAL	331,760			MEAN 909		MAX 16,400	MIN 48	AC-FT 658,000	MEAN† 4,044	AC-FT† 2,928,000		

† Adjusted for diversion through Poe powerhouse.

2,613,400

11-4053. WEST BRANCH FEATHER RIVER NEAR PARADISE, CALIF.

LOCATION.--Lat 39°47'15", long 121°33'40", in SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.6, T.22 N., R.4 E., on left bank 0.6 mile upstream from Griffin Gulch and 4.0 miles northeast of Paradise.

DRAINAGE AREA.--113 sq mi.

RECORDS AVAILABLE.--October 1957 to September 1967.

GAGE.--Graphic water-stage recorder. Altitude of gage is 1,370 ft (from topographic map).

AVERAGE DISCHARGE.--10 years, 296 cfs (214,300 acre-ft per year).

EXTREMES.--Maximum discharge during year, 8,220 cfs Jan. 29 (gage height, 14.67 ft); minimum daily, 0.60 cfs Oct. 1, 2, 4-7, 15-25.

1957-67: Maximum discharge, 26,300 cfs Dec. 22, 1964 (gage height, 26.2 ft, from floodmarks), from rating curve extended above 6,800 cfs; minimum, 0.3 cfs Aug. 31, Sept. 1, 2, 1960, Sept. 8, 1962.

REMARKS.--Records good. Dewey, Miners, and Hendricks Canals divert from headwaters of West Branch Feather River into Butte Creek basin for power development at DeSabra and Centerville plants of Pacific Gas and Electric Co. Upper Miocene Canal diverts about 50 cfs to Lime Saddle powerplant. Flow regulated by Round Valley Reservoir (usable capacity, 5,000 acre-ft) and Philbrook Reservoir (capacity, 5,010 acre-ft). Records of water temperatures for the water year 1967 are published in Part 2 of this report.

COOPERATION.--Water-stage recorder graph and 16 discharge measurements furnished by California Department of Water Resources in connection with a Federal Power Commission project.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.60	0.90	1.390	54	1.950	179	529	295	812	390	4.0	1.1
2	.60	.90	2.320	52	1.330	168	478	326	730	362	3.0	1.1
3	.70	.90	1.660	47	1.020	167	468	317	676	326	2.8	1.1
4	.60	.90	1.540	45	875	156	450	390	753	271	2.5	1.0
5	.60	.90	2.680	45	780	146	565	426	816	238	2.0	.90
6	.60	22	1.240	39	694	138	995	457	789	218	1.8	.90
7	.60	16	825	39	633	137	748	654	798	181	1.6	.90
8	.70	1.2	613	37	581	140	589	895	784	123	1.4	.90
9	.70	.80	474	36	533	148	533	1020	820	101	1.4	.90
10	.70	.70	422	34	505	215	529	1060	812	87	1.4	.90
11	.70	.80	335	34	464	507	509	802	812	69	1.3	.90
12	.70	45	287	36	478	422	460	704	807	50	1.2	.90
13	.70	15	341	34	533	365	471	708	780	40	1.2	.80
14	.70	3.2	387	36	513	289	482	794	753	34	1.1	.80
15	.60	380	271	37	454	328	429	1020	776	29	1.1	.80
16	.60	1.140	233	36	418	3500	374	1290	830	26	4.8	.80
17	.60	120	200	31	359	2190	468	1420	861	26	1.4	.90
18	.60	26	176	30	303	1380	505	1490	890	21	1.1	.99
19	.60	819	163	28	287	1060	457	1550	940	18	1.1	3.2
20	.60	2.170	146	393	298	965	436	1690	890	15	1.1	1.1
21	.60	670	131	4.460	292	985	401	1810	830	14	1.0	1.0
22	.60	460	114	1.930	282	915	363	1820	730	12	1.0	.90
23	.60	252	105	843	276	1.410	369	1860	653	10	1.1	1.1
24	.60	176	99	717	252	1.000	387	1820	641	9.3	1.1	1.1
25	.60	142	91	545	252	825	374	1570	625	6.6	1.1	1.1
26	.80	121	83	468	208	717	362	1400	589	4.2	1.1	1.0
27	.90	110	75	617	194	637	501	1330	505	4.0	1.1	1.0
28	.90	452	69	1.610	189	633	408	1200	422	4.2	1.1	.90
29	.90	1.980	66	5.180	- - - -	577	347	1.080	394	6.6	1.1	.90
30	.90	672	62	3.470	- - - -	553	312	1.010	390	5.1	1.0	.90
31	.90	- - - -	55	3.550	- - - -	569	- - - -	895	- - - -	5.4	1.0	- - - -
Total	21.10	9.799.20	16.653	24.513	14.953	21.421	14.303	33.103	21.923	2706.4	49.0	39.70
Mean	0.68	327	537	791	534	691	477	1069	731	87.3	1.58	1.32
Max	0.90	2.170	2.680	5.180	1.950	3.500	995	1.860	940	390	4.8	9.9
Min	0.60	0.70	55	28	189	137	312	295	390	4.0	1.0	0.80
Ac-ft	42	19.440	33.030	48.620	29.660	42.490	28.370	65.660	43.480	5.370	97	79

Cal yr 1966: Total 79,020.80 Mean 216 Max 2,680 Min 0.60 Ac-ft 156,700
Wtr yr 1967: Total 159,484.40 Mean 437 Max 5,180 Min 0.60 Ac-ft 316,300

Peak discharge (base, 2,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-16	0200	9.22	2,720	1-21	1700	13.78	7,140
11-20	0130	11.58	4,780	1-29	0700	14.67	8,220
11-29	0330	9.53	2,960	3-16	1530	11.68	5,130
12-02	2030	11.28	4,510	5-23	2100	8.68	2,360
12-05	0200	11.07	4,320				

SACRAMENTO RIVER BASIN

11-4070. FEATHER RIVER AT OROVILLE, CALIF.

LOCATION.--Lat 39°31'13", long 121°32'48", in SW¼NE¼ sec.8, T.19 N., R.4 E., on right bank 300 ft upstream from fish barrier dam on Feather River and 0.6 mile northeast of Oroville business district.

DRAINAGE AREA.--3,624 sq mi.

RECORDS AVAILABLE.--October 1901 to September 1967. October 1934 to September 1961 published as "near Oroville." Monthly discharge only for some periods published in WSP 1315-A.

GAGE.--Graphic water-stage recorder. Datum of gage is 148.97 ft above mean sea level (levels by California Department of Water Resources). Jan. 1, 1902, to Dec. 15, 1912, staff gages at several locations 0.2 mile downstream at various datums. Dec. 16, 1912, to Sept. 30, 1934, graphic water-stage recorder at site 0.2 mile downstream at datum 139.53 ft above mean sea level, datum of 1929. Oct. 1, 1934, to June 30, 1962, graphic water-stage recorder at site 5.0 miles upstream at datum 182.02 ft above mean sea level, datum of 1929. July 1, 1962, to Sept. 30, 1964, graphic water-stage recorder at site 0.2 mile downstream at mean sea level datum, datum of 1929.

AVERAGE DISCHARGE.--66 years, 5,836 cfs (4,225,000 acre-ft per year).

EXTREMES.--Maximum discharge during year, 53,300 cfs Jan. 22 (gage height, 14.58 ft); minimum daily, 704 cfs Sept. 30.

1901-67: Maximum discharge observed, 230,000 cfs Mar. 19, 1907 (elevation, 167.5 ft above mean sea level, datum of 1929); minimum, 300 cfs (estimated), Nov. 9, 1931.

REMARKS.--Records excellent. Flow partly regulated by powerplants and reservoirs above station. Several diversions above station for power and irrigation. See REMARKS for upstream stations and schematic diagram for South Fork Feather River basin. Records of chemical analyses, water temperatures, and suspended-sediment loads for the water year 1967 are published in Part 2 of this report.

COOPERATION.--Water-stage recorder graph and one discharge measurement furnished by California Department of Water Resources in connection with a Federal Power Commission project.

REVISIONS.--Revised figures of discharge, in cubic feet per second, for the water year 1966, superseding those published in Surface Water Records of California, Part 1, Vol. 2, 1966, are given herewith:

Date	Discharge	Date	Discharge	Date	Discharge	Date	Discharge
1966		1966 con.		1966 con.		1966 con.	
1	1650	9	1320	17	1480	25	1320
2	1780	10	1320	18	1480	26	1300
3	1630	11	1320	19	1440	27	1260
4	1550	12	1300	20	1400	28	1250
5	1550	13	1260	21	1400	29	1310
6	1520	14	1320	22	1400	30	1240
7	1480	15	1430	23	1370		
8	1440	16	1440	24	1320		

Month	Cfs-days	Maximum	Minimum	Mean	Runoff in ac-ft
September 1966	42,280	----	----	1,409	83,860
Water year 1965-66	----	13,400	1,240	3,928	2,844,000

SACRAMENTO RIVER BASIN

869

11-4070. FEATHER RIVER AT OROVILLE, CALIF. --Continued

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1260	1020	9020	4880	31700	6450	10700	7990	14200	7210	3970	3170
2	1250	1260	14300	4640	20200	6390	9860	8080	12900	7060	3740	3210
3	1290	1310	17300	4570	15500	6420	9350	8170	11900	6790	3830	3190
4	1280	1230	11300	4640	12300	6000	9000	8490	12200	6230	3580	2950
5	1030	1330	22700	4470	11400	5950	9410	8840	12700	6110	3410	2950
6	1040	1230	16800	4400	10400	5810	14200	8810	13000	5970	3060	2950
7	1140	1760	11400	4640	9350	5830	12100	10500	12900	5720	3120	3120
8	1180	1360	9410	4540	9220	6000	10400	13600	12600	4350	3410	2910
9	1210	1390	8170	4420	8870	5950	9860	17200	12600	4160	3250	2810
10	1250	1410	7960	4300	8170	6230	9730	18500	12600	4540	3210	2930
11	1180	1420	7510	4210	8420	8290	9930	16200	12400	5220	3190	2850
12	1040	1720	6820	4060	8020	7870	8810	14600	12300	5170	3080	2610
13	1060	1630	6530	4300	8390	7030	8840	13700	12600	5090	2970	2650
14	1100	1560	5920	4470	8970	6230	9030	13400	12100	4990	3030	2650
15	1140	2820	6000	4280	8330	6140	8710	14700	11800	4250	3100	2730
16	1150	8880	4930	4350	7900	21600	8110	17200	11700	3800	3280	2930
17	1120	2990	4880	4110	7570	38000	8740	19600	11900	4180	3390	3190
18	1080	1980	4160	3920	7390	31300	9640	21000	12000	4860	3300	3210
19	986	2910	4230	3580	7030	28300	9450	21500	12400	4520	3430	2970
20	930	14600	4730	4940	7000	20900	9570	22700	12200	4830	3500	2850
21	930	8900	5610	29800	6850	17500	9450	24300	11400	4570	3390	3140
22	944	5910	5480	42800	6730	16400	8810	25300	10900	3670	3230	3170
23	958	4110	5320	15900	6620	18700	8870	25500	9990	3360	3280	2910
24	958	3720	5270	13700	6530	17900	9450	26500	9220	3760	3030	2790
25	847	2490	4730	10900	6760	15300	9060	25200	9220	4610	2650	2970
26	704	1960	4370	8450	6620	13400	8710	22100	9090	4470	2870	2950
27	1060	1940	4300	8930	6450	11800	9130	19800	8520	4160	2930	2990
28	1040	2540	4730	15000	6310	11100	8870	18500	7870	4230	3190	3140
29	986	15500	4880	43100	- - - -	10900	8550	16800	7600	3610	3410	2250
30	1000	7840	4730	48300	- - - -	10300	8610	15700	7210	3280	3210	1340
31	1020	- - - -	4520	46800	- - - -	11600	- - - -	14600	- - - -	3500	3170	- - - -
Total	33,163	108,620	239,010	371,400	269,500	391,590	284,950	519,080	340,020	148,270	101,210	86,480
Mean	1070	3621	7710	11980	9625	12630	9498	16740	11330	4783	3265	2883
Max	1290	15500	22700	48300	31700	38000	14200	26500	14200	7210	3970	3210
Min	704	1020	4160	3580	6310	5810	8110	7990	7210	3280	2650	1340
Ac-ft	65,780	215,400	474,100	736,700	534,500	776,700	565,200	1,030,000	674,400	294,100	200,700	171,500

Cal yr 1966: Total 1,464,963 Mean 4,014 Max 22,700 Min 704 Ac-ft 2,906,000
Wtr yr 1967: Total 2,893,293 Mean 7,927 Max 48,300 Min 704 Ac-ft 5,739,000

Peak discharge (base, 30,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
1-22	0300	14.58	53,300	3-17	0500	12.50	41,800
1-29	2000	14.47	52,600				

SACRAMENTO RIVER BASIN

11-4071.5. FEATHER RIVER NEAR GRIDLEY, CALIF.

LOCATION (revised).--Lat 39°22'00", long 121°38'46", in SW¼ sec.33, T.18 N., R.3 E., on right bank 300 ft upstream from highway bridge and 2.7 miles east of Gridley.

DRAINAGE AREA.--3,676 sq mi.

RECORDS AVAILABLE.--October 1964 to September 1967. January 1944 to September 1964 are published in reports by California Department of Water Resources.

GAGE.--Digital water-stage recorder. Gage is set to datum of Corps of Engineers which is 2.91 ft below mean sea level. Prior to Mar. 13, 1966, graphic water-stage recorder on left bank at same datum.

EXTREMES.--Maximum discharge during year, 45,600 cfs Jan. 30 (gage height, 38.70 ft); minimum daily, 133 cfs Oct. 27.

1964-67: Maximum discharge, 151,000 cfs Dec. 23, 1964 (gage height, 100.43 ft); minimum daily, 117 cfs June 27, 1966.

Flood of Dec. 23, 1955, reached a stage of 102.25 ft, discharge unknown.

REMARKS.--Flow regulated by powerplants and reservoirs above station. See schematic diagrams for South Fork and North Fork Feather River basins. Records of water temperatures and suspended-sediment loads for the water year 1967 are published in Part 2 of this report.

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

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	742	454	7,510	5,170	37,100	6,670	10,800	8,010	12,400	4,800	1,450	1,320
2	756	547	11,800	4,910	24,400	6,560	9,930	7,880	11,500	4,620	1,400	1,410
3	756	741	19,100	4,620	18,100	6,610	9,300	7,740	10,400	4,380	1,250	1,420
4	761	679	12,600	4,780	14,900	6,360	8,360	7,920	10,300	4,020	1,210	1,170
5	673	732	20,000	4,670	12,900	6,090	8,940	8,140	10,800	3,640	1,200	1,270
6	488	910	20,000	4,600	11,500	6,000	12,700	8,110	11,000	3,560	773	1,260
7	586	1,200	13,400	4,680	10,500	6,050	12,600	9,000	11,100	3,350	790	1,340
8	628	1,090	10,200	4,630	9,800	6,080	10,500	11,000	10,600	2,130	959	1,660
9	660	1,140	8,790	4,580	9,450	6,080	9,900	15,000	10,600	1,720	1,060	1,280
10	683	1,150	8,380	4,430	8,690	6,240	9,770	17,000	10,600	1,770	934	1,570
11	709	1,260	8,060	4,390	8,840	8,120	10,000	16,000	10,400	2,660	930	1,550
12	549	1,390	7,340	4,270	8,370	7,870	9,240	14,000	10,200	2,560	901	1,460
13	470	1,360	7,100	4,330	8,570	7,570	8,800	12,700	10,400	2,530	819	1,460
14	526	1,190	6,190	4,600	9,060	6,520	9,010	11,900	10,100	2,460	832	1,540
15	557	1,780	6,350	4,430	8,730	6,310	8,840	12,700	9,670	2,120	935	1,690
16	575	7,610	5,610	4,360	8,250	13,800	8,390	14,700	9,590	1,400	938	2,000
17	601	4,280	5,160	4,310	7,910	34,400	8,340	16,800	9,710	1,380	1,130	2,310
18	515	1,890	4,530	4,070	7,740	30,700	9,690	18,100	9,760	2,290	1,160	2,470
19	497	1,920	4,400	3,910	7,440	29,500	9,340	18,300	10,100	2,070	1,230	2,380
20	394	11,900	4,680	4,080	7,260	23,100	9,550	19,500	10,000	2,120	1,250	2,140
21	265	10,100	5,720	18,700	7,110	18,700	9,440	20,900	9,370	2,080	1,390	2,430
22	219	7,080	5,790	41,400	6,980	17,000	8,950	22,100	8,710	1,600	1,260	2,550
23	210	4,720	5,580	20,900	6,910	17,700	8,790	22,300	7,870	990	1,290	2,400
24	202	4,090	5,520	14,200	6,760	18,600	9,370	23,300	7,170	978	1,150	2,170
25	202	3,010	5,190	12,400	7,040	16,100	9,070	22,900	6,970	1,900	791	2,310
26	147	2,010	4,580	9,170	6,830	14,000	8,840	20,600	6,790	1,890	853	2,380
27	133	1,760	4,460	9,580	6,610	12,300	8,970	18,200	6,300	1,670	985	2,410
28	311	1,950	4,820	13,200	6,480	11,100	8,930	16,900	5,580	1,630	1,080	2,650
29	383	11,600	5,060	31,500	- - - - -	11,000	8,700	15,300	5,230	1,330	1,330	2,060
30	395	9,780	5,000	45,000	- - - - -	10,200	8,550	14,300	4,800	938	1,360	1,140
31	430	- - - - -	4,620	44,400	- - - - -	11,300	- - - - -	13,000	- - - - -	823	1,340	- - - - -
Total	15,023	99,223	247,640	350,170	294,330	388,630	284,110	464,800	278,020	71,309	33,980	55,200
Mean	485	3,307	7,988	11,300	10,510	12,540	9,470	14,990	9,267	2,300	1,096	1,840
Max	761	11,900	20,000	45,000	37,100	34,400	12,700	23,300	12,400	4,800	1,450	2,650
Min	133	454	4,400	3,910	6,480	6,000	8,340	7,740	4,800	823	773	1,140
Ac-ft	29,300	196,900	491,200	694,600	583,800	770,800	563,500	921,900	551,400	141,400	67,400	109,500

Cal yr 1966: Total 1,113,646 Mean 3,051 Max 20,000 Min 117 Ac-ft 2,209,000
 Wtr yr 1967: Total 2,582,435 Mean 7,075 Max 45,000 Min 133 Ac-ft 5,122,000

11-4073. NORTH HONCUT CREEK NEAR BANGOR, CALIF.

LOCATION.--Lat 39°20'32", long 121°29'25", in SW $\frac{1}{4}$ sec.11, T.17 N., R.4 E., on left bank 0.25 mile upstream from unnamed tributary and 5.7 miles southwest of Bangor.

DRAINAGE AREA.--47.1 sq mi.

RECORDS AVAILABLE.--October 1960 to September 1962, July 1963 to September 1967.

GAGE.--Digital water-stage recorder. Altitude of gage is 125 ft (from topographic map). Prior to September 1962, graphic water-stage recorder at site 50 ft upstream at same datum. Oct. 11, 1962, to Dec. 8, 1965, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--6 years, 41.2 cfs (29,830 acre-ft per year).

EXTREMES.--Maximum discharge during year, 9,060 cfs Jan. 21 (gage height, 11.11 ft); minimum daily, 0.40 cfs July 17.

1960-62, 1963-67: Maximum discharge, 10,700 cfs Dec. 26, 1964 (gage height, 11.57 ft), from rating curve extended above 4,600 cfs; no flow for many days in 1961, 1962, 1966.

REMARKS.--Small diversions above station for irrigation. Slight regulation occurs from Lake Wyandotte (capacity, 1,460 acre-ft).

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

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.3	6.6	280	11	369	14	322	71	21	2.9	1.3	2.0
2	2.1	6.3	1,070	11	216	13	170	55	25	2.7	1.2	1.9
3	2.9	3.9	566	11	94	13	123	47	20	2.5	1.0	2.1
4	3.1	2.9	355	11	75	13	96	39	18	2.0	1.3	1.5
5	2.7	2.4	1,150	12	65	12	143	32	17	1.9	1.4	1.2
6	2.7	4.9	671	11	56	12	1,140	29	15	1.9	1.4	1.3
7	3.0	19	166	11	51	12	360	25	12	2.3	1.8	1.9
8	3.1	8.8	85	10	44	13	179	22	9.7	2.5	1.9	2.1
9	2.9	5.8	52	10	39	12	126	19	8.8	2.5	2.1	2.1
10	2.7	4.5	50	9.4	36	13	137	23	8.2	2.6	2.5	2.1
11	2.6	4.2	43	8.7	32	100	366	20	7.8	2.1	2.5	2.0
12	3.1	5.0	35	8.6	30	182	177	21	15	1.6	2.6	2.0
13	2.6	6.8	30	8.2	27	184	119	18	41	1.3	2.9	1.8
14	2.5	5.6	33	7.6	25	283	97	15	19	1.0	2.0	1.6
15	2.7	9.2	27	7.6	23	121	97	14	15	.80	1.4	1.4
16	3.3	6.9	24	7.6	21	791	87	13	13	.50	1.4	1.5
17	5.4	27	22	7.2	21	289	173	12	12	.40	2.4	1.8
18	6.1	14	20	7.0	19	146	260	10	11	.50	2.2	3.0
19	6.6	50	19	6.6	18	106	249	9.3	11	.70	2.4	3.4
20	6.1	379	18	280	16	87	219	8.5	9.9	.90	1.8	2.4
21	5.5	127	19	3,270	15	92	157	7.9	8.7	.90	1.6	1.8
22	6.0	101	17	1,370	14	75	143	7.3	7.9	.90	1.7	2.2
23	6.3	37	16	268	14	177	131	6.6	6.7	1.1	1.4	3.3
24	6.6	23	14	354	14	114	346	7.6	5.9	1.7	1.2	4.0
25	6.6	16	13	174	22	83	186	7.7	5.1	2.1	1.2	4.0
26	6.5	10	13	205	21	69	123	7.8	4.6	1.9	1.5	3.8
27	6.6	6.7	12	351	16	59	139	8.2	3.9	1.7	1.2	3.3
28	7.4	20	12	1,000	15	51	107	9.0	3.5	1.4	1.3	3.3
29	7.7	614	12	1,330	---	68	85	9.2	3.3	1.3	1.4	3.7
30	7.3	84	11	934	---	132	88	9.2	3.5	1.2	1.7	4.1
31	6.9	---	11	965	---	851	---	9.6	---	1.3	1.9	---
Total	140.9	1,673.6	4,866	10,677.5	1,408	4,187	6,143	590.9	362.5	49.10	53.6	72.6
Mean	4.55	55.8	157	344	50.3	135	205	19.1	12.1	1.58	1.73	2.42
Max	7.7	614	1,150	3,270	369	851	1,140	71	41	2.9	2.9	4.1
Min	1.3	2.4	11	6.6	14	12	85	6.6	3.3	0.40	1.0	1.2
Ac-ft	279	3,320	9,650	21,180	2,790	8,300	12,180	1,170	719	97	106	144

Cal yr 1966: Total 13,133.60 Mean 36.0 Max 1,150 Min 0 Ac-ft 26,050
Wtr yr 1967: Total 30,224.70 Mean 82.8 Max 3,270 Min 0.40 Ac-ft 59,950

SACRAMENTO RIVER BASIN

11-4075. SOUTH HONCUT CREEK NEAR BANGOR, CALIF.

LOCATION.--Lat 39°22'05", long 121°22'15", in SE $\frac{1}{4}$ sec.35, T.18 N., R.5 E., on right bank 2.3 miles southeast of Bangor and 3.3 miles upstream from Tennessee Creek.

DRAINAGE AREA.--30.6 sq mi.

RECORDS AVAILABLE.--October 1950 to September 1967.

GAGE.--Digital water-stage recorder. Altitude of gage is 620 ft (from topographic map). Prior to Oct. 9, 1963, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--17 years, 35.2 cfs (25,480 acre-ft per year); median of yearly mean discharges, 27 cfs (19,500 acre-ft per year).

EXTREMES.--Maximum discharge during year, 6,040 cfs Jan. 21 (gage height, 10.95 ft), from rating curve extended above 2,200 cfs as explained below; no flow Oct. 3-6, 0, 11.
1950-67: Maximum discharge, 17,600 cfs Dec. 26, 1964 (gage height, 19.25 ft), from rating curve extended above 2,200 cfs on basis of slope-area measurements at gage heights 11.15 and 19.25 ft; no flow at times in most years.

REMARKS.--Records good except those for period July to September, which are poor. Some small diversions upstream for irrigation.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	.10	.60	121	5.1	247	13	169	57	28	7.5	.67	.26
2	.10	.60	504	4.9	142	13	117	52	17	2.7	1.0	.28
3	0	1.0	195	4.7	101	12	93	48	14	2.5	2.6	.24
4	0	.90	228	4.5	80	11	76	46	12	6.3	2.5	.18
5	0	.90	488	4.5	65	10	113	47	15	12	2.4	.15
6	0	6.5	325	4.4	54	10	579	35	15	4.4	2.2	.21
7	.10	8.1	114	4.0	47	9.9	232	32	12	8.9	2.6	.23
8	.10	4.0	64	4.1	40	9.7	145	30	11	5.1	2.5	.25
9	.10	3.4	42	4.1	35	9.9	107	30	9.5	3.4	1.8	.25
10	0	3.3	39	4.1	32	12	129	37	18	4.3	.37	.28
11	0	3.3	30	4.1	29	160	178	30	26	7.5	1.3	.25
12	.10	4.7	25	4.1	28	175	126	31	21	6.0	2.5	.25
13	.10	4.3	22	4.1	27	147	94	25	25	4.1	3.1	.21
14	.10	4.7	20	3.9	23	150	85	23	16	3.8	2.9	.23
15	.10	17	17	3.8	20	115	83	21	12	3.1	3.0	.23
16	.90	56	15	3.7	20	561	69	20	11	5.5	4.5	.25
17	.50	11	13	3.5	18	207	189	20	14	5.1	4.3	.31
18	.40	4.4	12	3.6	17	116	188	17	16	7.9	3.0	.46
19	.40	36	11	3.6	16	83	183	15	15	7.5	2.4	.49
20	.40	154	10	219	15	71	146	14	16	6.0	1.1	.55
21	.40	91	9.7	1,630	14	67	120	13	12	4.5	.28	.55
22	.40	59	9.0	538	14	55	101	11	6.6	2.0	.21	.55
23	.40	16	8.6	145	14	115	121	11	4.8	.75	.19	.58
24	.40	8.8	8.3	240	15	68	194	10	7.9	1.7	.19	.58
25	.40	4.5	7.8	140	23	55	126	10	13	2.0	.19	.55
26	.40	3.6	7.4	161	17	49	100	9.5	14	1.6	.17	.49
27	.40	3.2	6.8	196	15	42	110	9.5	10	1.0	.17	.46
28	.50	16	6.2	560	14	44	83	9.3	13	1.1	.25	.46
29	.50	292	6.0	795	-----	48	71	9.0	5.3	1.3	.25	.43
30	.50	43	5.7	507	-----	79	70	8.8	6.3	2.3	.28	.43
31	.50	-----	5.3	711	-----	245	-----	9.4	-----	1.7	.26	-----
TOTAL	8.30	861.80	2,375.8	5,920.8	1,182	2,762.5	4,197	740.5	416.4	133.95	49.18	10.64
MEAN	.27	28.7	76.6	191	42.2	89.1	140	23.9	13.9	4.32	1.59	.35
MAX	.90	292	504	1,630	247	561	579	57	28	12	4.5	.58
MIN	0	.60	5.3	3.5	14	9.7	69	8.8	4.8	.75	.17	.15
AC-FT	16	1,710	4,710	11,740	2,340	5,480	8,320	1,470	826	266	98	21

CAL YR 1966: TOTAL 7,072.80 MEAN 19.4 MAX 575 MIN 0 AC-FT 14,030
WAT YR 1967: TOTAL 18,658.87 MEAN 51.1 MAX 1,630 MIN 0 AC-FT 37,010

Peak discharge (base, 1,400 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-02	1930	8.15	2,420	1-29	0430	8.04	2,300
1-21	2000	10.95	6,040				

Note.--Stage-discharge relation affected by backwater from swimmer dams July to September.

SACRAMENTO RIVER BASIN

873

11-4077. FEATHER RIVER AT YUBA CITY, CALIF.

LOCATION.--Lat 39°08'20", long 121°36'17", in NE¼ sec.23, T.15 N., R.3 E., on left bank at 5th Street railroad bridge in Yuba City, 0.7 mile above confluence with Yuba River, and at mile 28.0 above mouth.

DRAINAGE AREA.--3,974 sq mi.

RECORDS AVAILABLE.--October 1964 to September 1967. November 1943 to September 1963 (prior to July 1, 1944, stage only) published in reports of California Department of Water Resources.

GAGE.--Graphic water-stage recorder. Gage is set to datum of Corps of Engineers.

EXTREMES.--Maximum discharge during year, 52,800 cfs Jan. 31 (gage height, 62.43 ft); minimum daily, 354 cfs Oct. 27.

1964-67: Maximum discharge, 172,000 cfs (revised) Dec. 23, 1964 (gage height, 76.42 ft); minimum daily, 166 cfs June 30, 1966.

REVISIONS.--The maximum discharge for the water year 1965 has been revised to 172,000 cfs Dec. 23, 1964 (gage height, 76.42 ft), superseding figure published in Surface Water Records of California, Part 1, Vol. 2, 1965.

REMARKS.--Flow regulated by powerplants and reservoirs. There are many diversions above the station for irrigation. Records of water temperatures and suspended-sediment loads for the water year 1967 are published in Part 2 of this report.

COOPERATION.--Gage-height record furnished by California Department of Water Resources.

REVISIONS.--Revised figures of discharge, in cubic feet per second, for the water year 1965, superseding those published in Surface Water Records of California Part 1, Vol. 2, 1966 are given herewith:

Dec. 21, 1964 14,800
22..... 56,900
23.....172,000

Month	Cfs-days	Maximum	Minimum	Mean	Runoff in acre-ft
December 1964	907,110	---	---	24,850	1,799,000
Calendar year 1964	---	---	---	---	---
Water year 1964-65	3,090,810	172,000	1,070	8,468	6,131,000

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	796	663	9,270	4,900	42,700	6,660	13,200	8,340	14,400	4,590	1,430	1,700
2	796	689	13,400	5,000	30,000	6,710	11,500	8,660	13,100	4,510	1,720	1,690
3	836	850	22,900	4,720	21,600	6,630	10,600	8,460	11,700	4,250	1,490	1,860
4	844	954	17,600	4,780	16,400	6,580	10,100	8,680	11,200	4,140	1,520	1,750
5	836	922	19,400	4,830	13,800	6,320	9,830	8,980	10,800	3,730	1,380	1,720
6	663	1,070	25,700	4,690	12,400	6,120	12,900	9,110	11,500	3,470	1,190	1,700
7	616	1,690	20,500	4,690	11,400	6,080	17,100	9,370	11,600	3,290	956	1,690
8	675	1,900	13,400	4,660	10,500	6,150	13,400	11,400	11,300	3,130	963	1,950
9	703	1,560	10,500	4,720	10,200	6,140	11,600	14,000	11,100	2,140	1,240	1,770
10	731	1,540	9,400	4,500	9,530	6,150	11,000	16,300	11,200	1,970	1,110	1,800
11	773	1,560	9,030	4,430	9,340	7,420	11,700	16,200	11,200	2,690	997	1,920
12	759	1,570	8,360	4,300	9,130	8,390	11,100	13,900	13,200	3,030	978	1,930
13	610	1,740	7,780	4,190	9,060	9,260	10,000	12,300	11,200	3,040	1,040	1,760
14	598	1,640	7,130	4,410	9,320	8,200	9,930	11,400	11,100	2,960	960	1,800
15	634	1,810	7,060	4,430	9,290	7,240	9,930	11,700	10,600	2,740	1,030	1,920
16	640	5,260	6,680	4,300	8,710	13,600	9,630	13,500	10,300	2,040	1,080	2,110
17	682	6,880	5,920	4,330	8,330	32,100	9,190	16,000	10,300	1,760	1,260	2,490
18	675	3,290	5,660	4,160	8,100	32,500	11,400	17,500	10,400	2,230	1,400	2,680
19	654	2,620	5,100	3,940	7,900	28,900	10,900	18,400	10,500	2,660	1,430	2,830
20	616	7,720	5,100	3,900	7,640	25,300	11,200	19,000	10,700	2,420	1,530	2,590
21	520	11,300	5,680	14,900	7,530	20,500	10,600	20,300	9,910	2,640	1,660	2,640
22	440	8,940	6,040	41,700	7,320	17,800	10,200	21,700	8,930	2,330	1,570	2,900
23	405	6,490	5,900	33,400	7,180	17,200	9,730	22,400	8,380	1,570	1,480	2,900
24	415	5,300	5,740	19,100	7,000	19,300	10,600	22,900	7,430	1,350	1,500	2,660
25	400	4,590	5,620	15,800	7,110	17,200	10,300	23,200	6,970	1,700	1,220	2,600
26	405	3,400	5,010	12,100	7,080	14,900	10,100	22,400	6,650	2,300	914	2,750
27	354	2,860	4,790	12,300	6,870	13,200	9,300	20,900	6,420	2,220	1,110	2,930
28	405	2,880	4,830	14,800	6,680	12,000	9,970	19,200	5,700	1,990	1,200	3,070
29	533	8,000	5,020	28,700	---	11,700	9,530	17,700	5,160	1,930	1,490	2,740
30	586	14,400	5,070	46,400	---	11,000	9,190	16,300	4,740	1,360	1,760	1,880
31	610	---	4,880	50,800	---	12,200	---	15,100	---	1,170	1,700	---
Total	19,220	113,993	288,470	379,780	322,220	403,450	326,730	475,700	297,590	81,350	40,363	66,630
Mean	620	3,800	9,305	12,250	11,510	13,010	10,890	15,350	9,920	2,624	1,302	2,221
Max	844	14,400	25,700	50,800	42,700	32,600	17,100	23,200	14,400	4,590	1,760	3,070
Min	354	668	4,790	3,800	6,580	6,080	9,190	8,460	4,740	1,170	914	1,690
Ac-ft	38,120	226,100	572,200	753,300	639,100	800,200	648,100	943,500	590,300	161,400	80,060	132,200

Cal yr 1966: Total 1,143,132 Mean 3,132 Max 25,700 Min 166 Ac-ft 2,267,000
Wtr yr 1967: Total 2,815,496 Mean 7,714 Max 50,800 Min 354 Ac-ft 5,584,000

SACRAMENTO RIVER BASIN

RESERVOIRS IN FEATHER RIVER BASIN, CALIF.

11-3914.9. LAKE DAVIS.--Lat 39°53'03", long 120°28'31", in SW $\frac{1}{4}$ sec.1, T.23 N., R.13 E., in control house on left abutment of Grizzly Valley Dam on Big Grizzly Creek, 5.3 miles north of Portola. Drainage area, 44.0 sq mi. Records available, November 1966 to September 1967. Gage, digital water-stage recorder in control house on Grizzly Valley Dam. Datum of gage is at mean sea level (levels by California Department of Water Resources). Maximum contents during year, 53,507 acre-ft June 27 (elevation, 5,766.37 ft).

Reservoir is formed by earth and rockfill dam completed in 1967. Capacity, 84,040 acre-ft between elevations 5,700 (top of low level intake) and 5,775 ft (crest of spillway). Dead storage, 108 acre-ft. Record of contents furnished by California Department of Water Resources.

11-3913.7. FRENCHMAN LAKE.--Lat 39°53'36", long 120°11'17", in SE $\frac{1}{4}$ sec.33, T.24 N., R.16 E., in valve chamber at center of toe of Frenchman Dam on Little Last Chance Creek, 5.4 miles upstream from the confluence with Middle Fork Feather River and 7.1 miles north of Chilcote. Drainage area, 81.1 sq mi. Records available, October 1966 to September 1967 in reports of Geological Survey. November 1961 to September 1966 published in reports of California Department of Water Resources. Gage, digital water-stage recorder in valve house at center of toe of Frenchman Dam. Datum of gage is at mean sea level (levels by California Department of Water Resources). Maximum contents during year, 59,093 acre-ft May 22 (elevation, 5,590.28 ft); minimum, 36,715 acre-ft Nov. 12 (elevation, 5,574.64 ft).

Reservoir is formed by rockfill dam completed in 1961. Capacity, 53,582 acre-ft between elevations 5,517 (invert of intake) and 5,588 ft (crest of spillway). Dead storage, 1,840 acre-ft. Record of contents furnished by California Department of Water Resources.

11-4011.2. ANTELOPE LAKE.--Lat 40°10'42", long 120°36'33", in SE $\frac{1}{4}$ sec.22, T.27 N., R.12 E., in control house at toe of Antelope Dam on Indian Creek, 1.3 miles south of Boulder Creek Guard station, 12 miles northeast of Genesee, and 13.9 miles northeast of Taylorsville. Drainage area, 68.6 sq mi. Records available, October 1966 to September 1967 in reports of Geological Survey. November 1963 to September 1966 published in reports of California Department of Water Resources. Gage, digital water-stage recorder in control house at toe of Antelope Dam. Datum of gage is at mean sea level (levels by California Department of Water Resources). Maximum contents during year, 24,857 acre-ft May 23 (elevation, 5,004.45 ft); minimum, 17,504 acre-ft Nov. 14 (elevation, 4,996.23 ft).

Reservoir is formed by a rockfill dam. Storage began November 1963. Capacity, 22,239 acre-ft between elevations 4,950 (lip of intake tower) and 5,002 ft (crest of spillway). Record of contents furnished by California Department of Water Resources.

MONTH-END ELEVATIONS AND CONTENTS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Date	Elevation (feet)+	Contents (acre- feet)	Change in contents (acre- feet)	Elevation (feet)+	Contents (acre- feet)	Change in contents (acre- feet)	Elevation (feet)+	Contents (acre- feet)	Change in contents (acre- feet)
	Lake Davis			Frenchman Lake			Antelope Lake		
Sept. 30.....	-	-	-	5,575.05	37,220	-	4,997.42	18,476	-
Oct. 31.....	-	-	-	5,574.67	36,752	-468	4,996.42	17,658	-818
Nov. 30.....	5,707.45	205	+205	5,575.11	37,294	+542	4,996.81	17,974	+316
Dec. 31.....	5,728.27	1,656	+1,451	5,576.09	38,520	+1,226	4,997.54	18,576	+602
Calendar year 1966	-	-	-	-	-	-8,488	-	-	+2,420
Jan. 31.....	5,733.98	3,206	+1,550	5,577.50	40,327	+1,807	4,999.14	19,937	+1,361
Feb. 28.....	5,742.61	8,178	+4,972	5,579.42	42,871	+2,544	5,000.98	21,574	+1,637
Mar. 31.....	5,751.33	18,310	+10,132	5,585.69	51,844	+8,973	5,002.72	23,189	+1,615
Apr. 30.....	5,753.65	22,187	+3,877	5,588.57	56,322	+4,478	5,002.58	23,056	-133
May 31.....	5,763.66	45,412	+23,225	5,589.41	57,673	+1,351	5,003.72	24,145	+1,089
June 30.....	5,766.37	53,507	+8,095	5,588.50	56,210	-1,463	5,002.65	23,122	-1,023
July 31.....	5,765.90	51,978	-1,529	5,587.28	54,287	-1,923	5,002.15	22,653	-469
Aug. 31.....	5,765.38	50,286	-1,692	5,583.04	47,926	-6,361	5,001.61	22,152	-501
Sept. 30.....	5,764.96	48,940	-1,346	5,581.72	46,044	-1,882	5,000.98	21,574	-578
Water year 1966-67			-			+8,824			+3,098

+ Elevation at 2400 hours.

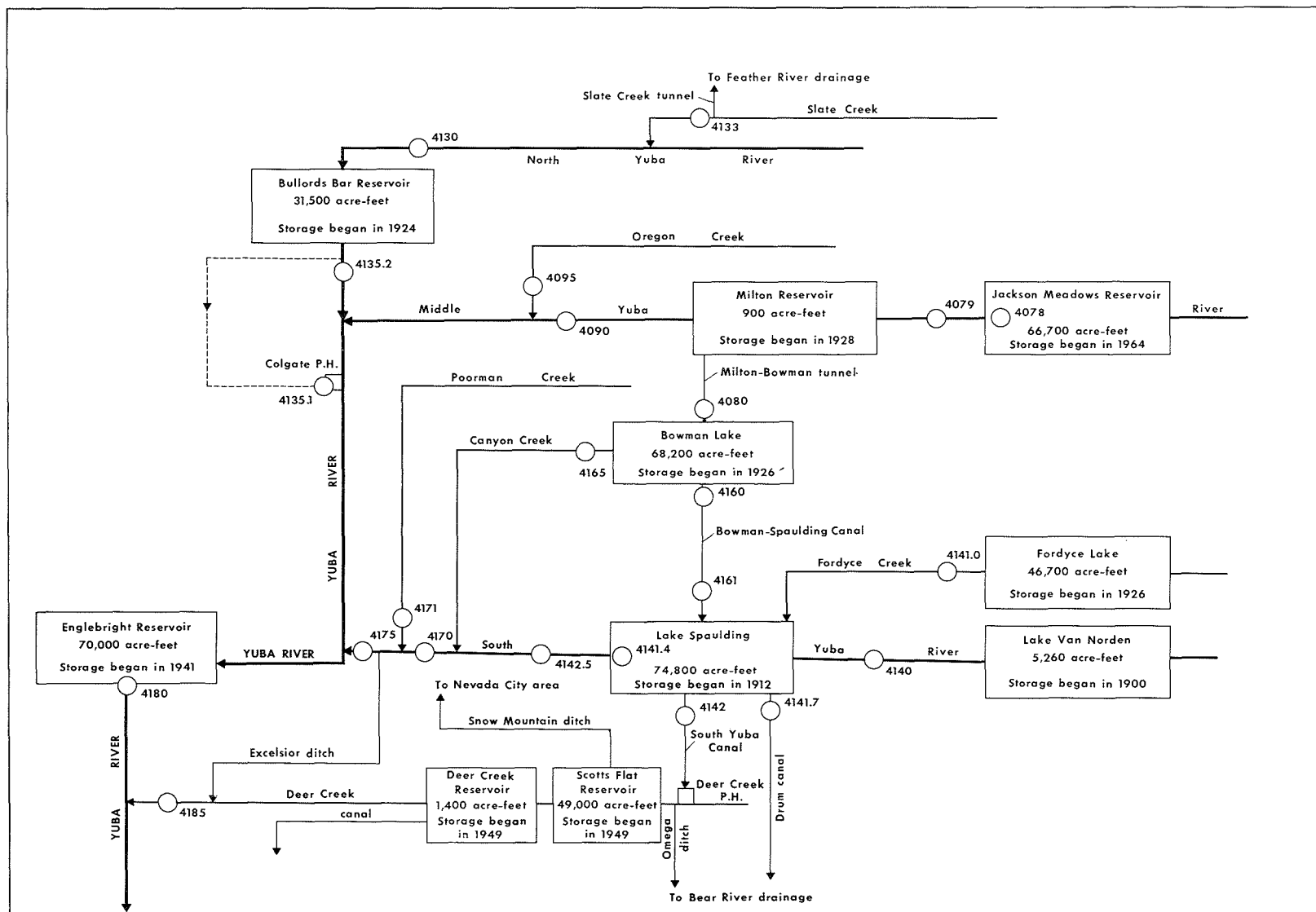


Figure 10.--Schematic diagram at Yuba River basin.

SACRAMENTO RIVER BASIN

11-4078. JACKSON MEADOWS RESERVOIR NEAR SIERRA CITY, CALIF.

LOCATION.--Lat 39°30'40", long 120°33'15", in NW¼SE¼ sec.18, T.19 N., R.13 E., on right bank at Jackson Meadows Dam on Middle Yuba River, 0.7 mile downstream from Pass Creek, and 5.7 miles southeast of Sierra City.

DRAINAGE AREA.--37.4 sq mi.

RECORDS AVAILABLE.--November 1964 to September 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is at mean sea level (levels by Nevada Irrigation District).

EXTREMES.--Maximum contents during year, 67,300 acre-ft Oct. 1-5 (elevation, 6,034.2 ft); minimum, 22,700 acre-ft Jan. 6 (elevation, 5,982.7 ft).

1964-67: Maximum contents, 69,800 acre-ft June 13, 1966 (elevation, 6,036.55 ft); minimum since initial season of normal operation, that of Jan. 6, 1967.

REMARKS.--Reservoir is formed by an earthfill dam. Storage began Nov. 9, 1964. Usable capacity, 66,700 acre-ft between elevations 5,933.0 (bottom of intake tower) and 6,036.0 ft (top of spillway Tainter gates). Dead storage, 2,500 acre-ft. Records, including extremes, represent total contents at 2400 hours.

CAPACITY TABLE (ELEVATION, IN FEET, AND CONTENTS, IN ACRE-FT)

5,980	10,600	6,010	43,900
5,970	15,400	6,020	53,200
5,980	21,000	6,030	63,000
5,990	27,600	6,040	69,500
6,000	35,300		

CONTENTS, IN ACRE-FEET, AT 2400 HOURS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	67,300	59,100	40,900	-	25,900	-	39,800	43,100	57,200	57,800	65,600	51,100
2	67,300	58,200	40,600	-	26,000	29,100	40,000	43,100	56,800	57,600	65,100	50,500
3	67,300	57,400	40,100	-	26,200	29,200	40,200	43,200	56,700	57,900	64,700	50,100
4	67,300	56,600	39,600	23,500	26,300	29,300	40,300	43,300	56,800	58,800	64,300	49,500
5	67,300	55,900	39,400	22,800	-	29,500	40,500	43,900	57,100	59,600	64,000	49,000
6	67,200	55,200	39,000	22,700	-	29,500	40,700	44,000	57,300	60,300	63,700	48,500
7	67,200	54,600	38,600	22,800	-	29,700	40,900	44,300	57,500	60,900	63,300	47,900
8	67,200	53,800	38,100	22,900	26,800	29,800	41,100	44,800	57,600	61,400	63,000	47,500
9	67,200	53,100	37,500	22,900	26,900	30,000	41,300	45,300	57,700	61,900	62,700	46,800
10	67,200	52,300	37,000	22,900	27,000	30,100	41,400	45,700	57,700	62,300	62,300	46,400
11	67,200	51,700	36,400	23,000	27,100	30,400	41,700	46,000	57,700	62,700	61,900	45,800
12	67,100	50,900	-	23,000	27,300	30,600	41,700	46,300	58,000	63,000	61,500	45,300
13	67,000	50,300	-	23,000	-	30,800	41,700	46,600	58,000	63,700	61,100	44,800
14	67,000	49,600	-	23,100	-	31,000	41,900	46,900	58,000	64,000	60,700	44,300
15	67,000	49,000	-	23,200	-	31,300	42,000	47,600	58,000	64,300	60,200	43,900
16	67,000	48,700	-	23,200	-	32,700	42,100	48,400	58,300	64,500	59,700	43,300
17	67,000	48,000	-	23,200	-	34,200	42,200	49,600	58,600	64,700	59,200	42,900
18	66,800	47,300	-	23,300	-	35,100	42,300	50,800	58,800	64,900	58,600	42,300
19	66,700	46,800	-	23,300	-	35,800	42,300	52,100	58,900	65,000	58,100	41,700
20	66,600	46,600	-	23,300	-	36,300	42,400	53,500	58,900	65,100	57,500	41,300
21	66,400	46,000	-	23,600	-	36,800	42,500	55,500	58,300	65,200	57,000	40,700
22	66,100	45,400	-	23,800	-	37,100	42,600	57,000	58,600	65,400	56,400	40,200
23	65,800	44,800	-	23,800	-	37,400	42,600	57,900	58,400	65,400	56,000	39,600
24	65,400	43,900	-	24,000	-	37,700	42,700	58,300	58,300	65,500	55,400	39,100
25	64,700	43,300	-	24,300	-	38,100	42,700	58,400	58,400	65,500	55,000	38,600
26	63,900	42,700	-	24,300	-	38,300	42,800	58,400	58,300	65,600	54,500	38,100
27	63,100	42,000	-	24,500	-	38,500	42,900	58,400	58,100	65,700	54,000	37,600
28	62,400	41,300	-	24,700	28,900	38,300	43,000	58,300	58,000	65,600	53,500	37,100
29	61,600	41,700	-	25,000	-----	39,000	43,100	58,100	58,000	65,700	52,600	36,500
30	60,800	41,300	-	25,200	-----	39,300	43,100	57,900	57,900	65,800	52,100	36,000
31	59,900	-----	25,500	25,600	-----	39,500	-----	57,600	-----	65,800	51,600	-----
(†)	6,026.9	6,007.0	-	5,987.1	-	6,004.9	6,009.1	6,024.6	6,024.9	6,032.7	6,018.3	6,000.8
(‡)	-7,400	-18,600	-15,800	+ 100	+ 3,300	+ 10,600	+ 3,600	+ 14,500	+ 300	+ 7,900	-14,200	-15,600
Max	67,300	59,100	40,900	25,600	28,900	39,500	43,100	58,400	58,900	65,800	65,600	51,100
Min	59,900	41,300	25,500	22,700	25,900	29,100	39,800	43,100	56,700	57,600	51,600	36,000

Calendar year 1966----- † - 4,000 Max 69,700 Min 25,500
 Water year 1966-67----- † - 31,300 Max 67,300 Min 22,700

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-feet.

SACRAMENTO RIVER BASIN

877

11-4079. MIDDLE YUBA RIVER BELOW JACKSON MEADOWS DAM, NEAR SIERRA CITY, CALIF.

LOCATION.--Lat 39°30'58", long 120°33'40", in SE¼NW¼ sec.18, T.19 N., R.13 E., on right bank 0.6 mile downstream from Jackson Meadows Dam, and 5.2 miles southeast of Sierra City.

DRAINAGE AREA.--38.2 sq mi.

RECORDS AVAILABLE.--October 1964 to September 1967. If record for Milton-Bowman tunnel near Graniteville is added to record published as Middle Yuba River at Milton, a record equivalent to this site can be obtained for the period 1928-64.

GAGE.--Graphic water-stage recorder and concrete control. Datum of gage is 5,717.20 ft above mean sea level (levels by Nevada Irrigation District).

EXTREMES.--Maximum discharge during year, 1,040 cfs June 19 (gage height, 5.21 ft); minimum daily, 5.1 cfs July 26-31.

1964-67: Maximum discharge, 2,300 cfs Sept. 1, 1965 (gage height, 6.60 ft), from rating curve extended above 1,100 cfs as explained below; minimum daily, 0.1 cfs Oct. 1, 2, 1964.

Maximum stage known since at least 1925, 10.57 ft Jan. 31, 1963, from floodmarks (discharge, 10,000 cfs, from rating curve extended above 1,100 cfs on basis of computation of maximum flow over dam, adjusted for diversion and inflow).

REMARKS.--Records good. Flow completely regulated by Jackson Meadows Reservoir (see sta. no. 4078).

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.5	625	344	320	11	7.9	9.8	7.9	580	695	128	248
2	5.5	590	344	320	10	7.6	9.8	8.5	464	665	227	248
3	5.5	548	344	320	10	7.3	9.8	8.5	440	36	236	248
4	5.5	512	344	316	10	7.0	9.4	8.5	386	7.3	181	248
5	5.5	472	344	312	10	6.8	9.4	8.5	448	7.0	160	248
6	5.5	440	344	264	10	6.8	8.8	9.8	500	7.0	172	248
7	5.5	408	344	78	10	7.0	8.5	13	556	6.8	202	251
8	5.5	382	344	38	10	7.3	8.5	18	585	6.8	199	251
9	5.5	358	344	28	9.8	7.9	8.5	21	645	6.5	197	251
10	5.5	351	344	24	9.8	7.9	8.5	18	655	6.5	195	251
11	5.5	351	340	22	9.4	7.3	8.2	14	655	6.0	197	251
12	5.5	351	340	20	9.4	7.0	8.5	13	710	6.0	197	251
13	5.5	351	340	18	9.4	7.0	8.5	13	770	6.0	197	251
14	5.5	351	340	17	9.4	6.8	8.5	16	728	5.8	204	251
15	5.5	351	340	15	9.4	7.0	8.5	21	716	5.5	225	254
16	5.5	348	340	14	9.1	39	8.5	25	764	5.5	254	254
17	5.5	348	340	14	9.1	33	8.2	28	932	5.5	254	254
18	37	348	340	12	8.8	22	8.2	28	939	5.5	248	254
19	96	348	337	12	8.5	17	8.2	29	988	5.5	251	254
20	102	348	337	11	8.5	14	8.2	31	1020	5.5	248	254
21	150	348	337	10	8.5	14	8.2	50	1000	5.5	248	254
22	225	348	337	10	8.2	14	7.9	258	932	5.3	278	254
23	278	348	337	10	7.9	14	7.9	496	878	5.3	251	254
24	323	348	334	10	7.9	13	8.2	645	812	5.3	254	251
25	390	348	334	9.4	7.9	13	8.5	740	800	5.3	254	251
26	476	348	326	9.1	7.9	12	8.5	794	806	5.1	254	251
27	556	344	326	9.1	7.9	12	8.5	836	782	5.1	254	248
28	590	344	323	8.8	7.9	12	8.5	830	740	5.1	254	248
29	595	344	323	8.8	-----	11	8.2	782	728	5.1	251	248
30	610	344	323	10	-----	10	7.6	728	705	5.1	248	248
31	625	-----	320	11	-----	10	-----	690	-----	5.1	248	-----
Total	5146.5	11645	10454	2281.2	255.7	368.6	256.5	7188.7	21664	1558.0	6966	7527
Mean	166	388	337	73.6	9.13	11.9	8.55	232	722	50.3	225	251
Max	625	625	344	320	11	39	9.8	836	1020	695	254	254
Min	5.5	344	320	8.8	7.9	6.8	7.6	7.9	386	5.1	128	248
Ac-ft	10,210	23,100	20,740	4,520	507	731	509	14,260	42,970	3,090	13,820	14,930
Mean †	45.7	75.6	80.3	75.1	68.6	184	69.1	468	727	179	-618	-11.3
Ac-ft†	2810	4500	4940	4,620	3,810	11,330	4,110	28,760	43,270	10,990	-380	-670

Calendar year 1966: Total 30,355.0 Max 625 Min 4.2 Mean 83.2 Ac-ft 60,210 Mean † 77.7 Ac-ft † 56,230
 Water year 1966-67: Total 75,311.2 Max 1,020 Min 5.1 Mean 206 Ac-ft 149,400 Mean † 163 Ac-ft † 118,100

† Adjusted for change in contents in Jackson Meadows Reservoir.

Note.--When inflow to the reservoir is small and other quantities are large, discordant figures of net runoff may appear.

Records of evaporation from Jackson Meadows Reservoir are not available.

SACRAMENTO RIVER BASIN

11-4080. MILTON-BOWMAN TUNNEL OUTLET NEAR GRANITEVILLE, CALIF.

LOCATION.--Lat 39°27'35", long 120°36'40", in NW¼NE¼ sec.3, T.18 N., R.12 E., on right bank 100 ft downstream from tunnel outlet near upper end of Bowman Lake and 6.9 miles east of Graniteville.

DRAINAGE AREA.--May 1928 to September 1930, February 1931 to September 1967. Monthly discharge only for some periods, published in WSP 1315-A. Prior to October 1962, published as Milton-Bowman tunnel at outlet.

GAGE.--Graphic water-stage recorder and Parshall flume. Altitude of gage is 5,600 ft (from topographic map). Prior to Sept. 22, 1964, at present site at datum 0.56 ft higher.

AVERAGE DISCHARGE.--39 years (1928-67), 69.0 cfs (49,950 acre-ft per year).

EXTREMES.--1928-30, 1931-67: Maximum daily discharge, 492 cfs Feb. 11, 1941; minimum daily, 0.4 cfs Oct. 7, 1944.

REMARKS.--Records good. Tunnel diverts from Middle Yuba River at Milton, in sec.12, T.19 N., R.12 E., and discharges into Bowman Lake. Practically the entire flow of Middle Yuba River is diverted during low and medium flows. Flow is regulated by Jackson Meadows Reservoir (see sta. no. 4078) since November 1964.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.3	386	350	290	30	13	19	10	43	44	91	253
2	2.3	387	355	289	25	13	18	10	42	43	197	252
3	2.3	374	353	288	22	13	17	11	41	41	216	252
4	2.3	397	343	285	20	13	17	12	42	38	187	252
5	2.3	352	361	284	19	13	17	12	45	36	160	253
6	2.3	364	356	177	18	12	16	13	44	55	166	254
7	2.5	294	346	14	18	12	16	18	44	28	207	254
8	2.5	368	339	9.8	17	13	15	26	45	20	202	253
9	2.5	352	334	8.9	17	13	15	33	45	19	199	253
10	2.5	349	334	8.4	16	14	15	31	45	16	201	252
11	2.5	348	332	8.1	16	15	15	25	45	15	204	249
12	2.5	347	329	8.1	16	14	14	22	49	15	199	253
13	2.5	346	329	7.8	18	15	15	22	49	14	199	255
14	2.5	347	327	7.8	18	12	15	26	46	13	210	255
15	2.5	351	324	7.8	17	12	15	36	46	13	226	254
16	2.5	361	322	7.6	16	66	14	50	48	12	254	254
17	2.5	347	320	7.6	15	84	14	45	49	12	258	254
18	2.5	342	319	7.6	15	60	14	37	50	11	251	255
19	2.5	344	317	7.6	15	42	13	40	50	10	252	254
20	2.5	369	316	8.9	14	35	13	43	50	10	250	254
21	126	352	313	16	14	33	12	45	50	9.8	246	254
22	143	343	309	14	14	32	12	46	48	9.5	268	254
23	134	339	308	12	14	32	12	47	46	8.9	260	253
24	184	333	307	12	14	28	12	46	46	8.1	259	252
25	271	336	305	11	14	26	11	46	47	7.6	262	251
26	327	334	302	12	13	24	11	48	46	7.3	258	250
27	391	333	298	14	13	23	12	50	46	7.3	257	249
28	380	344	297	17	13	23	11	49	46	7.1	256	250
29	364	362	295	51	- - - -	22	10	48	45	7.1	255	250
30	371	346	289	46	- - - -	21	11	47	45	6.8	254	250
31	396	- - - -	292	40	- - - -	20	- - - -	46	- - - -	6.8	254	- - - -
Total	3,135.8	10,552	10,021	1,977.0	471	768	421	1,040	1,383	550.3	6,958	7,578
Mean	101	352	323	63.8	16.8	24.8	14.0	33.5	46.1	17.8	224	253
Max	396	397	361	290	30	84	19	50	50	55	269	255
Mini	2.3	294	289	7.6	13	12	10	10	41	6.8	91	249
Ac-ft	6,220	20,930	19,880	3,920	934	1,520	835	2,060	2,740	1,090	13,800	15,030

Cal yr 1966: Total 28,070.3 Mean 76.9 Max 397 Min 1.9 Ac-ft 55,680
Wtr yr 1967: Total 44,855.1 Mean 123 Max 397 Min 2.3 Ac-ft 88,970

SACRAMENTO RIVER BASIN

879

11-4088.5. MIDDLE YUBA RIVER NEAR CAMPTONVILLE, CALIF.

LOCATION.--Lat 39°25'07", long 120°57'06", in SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec.15, T.18 N., R.9 E., on right bank 0.6 mile downstream from Kanaka Creek and 5.8 miles southeast of Camptonville.

DRAINAGE AREA.--136 sq mi.

RECORDS AVAILABLE.--August to September 1967.

GAGE.--Graphic water-stage recorder. Altitude of gage is 2,170 ft (from topographic map).

EXTREMES.--Maximum discharge during period August to September, 58 cfs Sept. 18 (gage height, 5.19 ft); minimum daily, 40 cfs Sept. 27-30.

REMARKS.--Records excellent. Natural flow of stream affected by Jackson Meadows Reservoir since November 1964 (see sta. no. 4078), Milton-Bowman tunnel (see sta. no. 4080) which diverts above station to Bowman Lake (see sta. no. 4155), and other small diversions above station.

DISCHARGE, IN CUBIC FEET PER SECOND, AUGUST TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1											-	47
2											-	47
3											-	47
4											-	48
5											-	50
6											-	49
7											-	47
8											-	47
9											-	46
10											-	47
11											-	46
12											-	45
13											-	44
14											-	44
15											-	44
16											-	43
17											-	44
18											53	55
19											53	51
20											53	45
21											52	44
22											52	43
23											52	44
24											52	44
25											51	43
26											53	42
27											52	40
28											50	40
29					- - - -						49	40
30					- - - -						49	40
31		- - - -			- - - -		- - - -		- - - -		48	- - - -
Total											-	1356
Mean											-	45.2
Max											-	55
Min											-	40
Ac-ft											-	2690

Cal yr1966 : Total - - Mean - Max - Min - Ac-ft -

Wtr yr1967 : Total - - Mean - Max - Min - Ac-ft -

SACRAMENTO RIVER BASIN

11-4090. MIDDLE YUBA RIVER ABOVE OREGON CREEK, NEAR NORTH SAN JUAN, CALIF.

LOCATION.--Lat 39°23'35", long 121°04'50", in SE¼ sec.28, T.18 N., R.8 E., on left bank 1,000 ft upstream from Oregon Creek and 2 miles northeast of North San Juan.

DRAINAGE AREA.--162 sq mi.

RECORDS AVAILABLE.--October 1940 to September 1967. Monthly and yearly discharges for the water year 1941 published in WSP 1315-A. Prior to October 1949, published as Middle Fork Yuba River above Oregon Creek. October 1949 to September 1964, published as Middle Yuba River above Oregon Creek. If record for Oregon Creek near North San Juan is subtracted from record published as Middle Fork Yuba River near North San Juan, a record equivalent to that at this site can be obtained for the period 1910-41.

GAGE.--Graphic water-stage recorder. Altitude of gage is 1,440 ft (from topographic map).

AVERAGE DISCHARGE.--27 years, 359 cfs (259,900 acre-ft per year).

EXTREMES.--Maximum discharge during year, 5,680 cfs Mar. 16 (gage height, 9.23 ft); minimum daily, 34 cfs Oct. 1-3.

1940-67: Maximum discharge, 31,600 cfs Jan. 31, 1963 (gage height, 18.55 ft), from rating curve extended above 15,000 cfs on basis of slope-area measurement at gage height 15.25 ft; minimum, 10 cfs Jan. 3, 1950.

REMARKS.--Records excellent. Natural flow of stream is affected by Jackson Meadows Reservoir since November 1964 (see sta. no. 4078), Milton-Bowman tunnel (see sta. no. 4080) which diverts above station to Bowman Lake (see sta. no. 4155), and other small diversions above station. Records of water temperatures and suspended-sediment loads for the water year 1967 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	34	37	521	135	1,640	248	550	447	1,480	1,240	91	59
2	34	38	1,340	132	1,140	248	526	461	1,220	1,140	90	58
3	34	39	1,480	128	855	250	506	496	1,060	1,040	85	57
4	35	39	650	125	720	242	510	566	1,130	394	84	58
5	36	39	1,300	132	642	232	526	670	1,440	327	82	61
6	37	60	1,560	121	582	225	600	650	1,440	300	79	59
7	36	75	1,030	120	550	222	742	780	1,490	272	78	57
8	35	52	658	115	510	220	680	830	1,530	252	78	57
9	35	47	489	115	475	225	598	920	1,530	235	76	57
10	35	44	468	112	464	240	602	1,010	1,540	220	75	57
11	35	43	436	110	444	342	582	900	1,540	209	73	57
12	36	44	372	109	444	351	530	800	1,770	201	72	56
13	37	44	351	107	464	336	526	755	2,120	193	71	55
14	38	45	351	106	461	312	554	775	1,750	187	71	54
15	39	124	305	107	408	327	546	942	1,680	177	68	53
16	39	328	290	109	378	3,350	510	1,200	1,720	165	67	53
17	39	141	275	107	321	3,380	534	1,360	1,830	159	67	53
18	37	108	260	106	339	1,980	574	1,390	1,970	149	66	53
19	36	94	248	103	327	1,440	570	1,370	2,040	141	65	54
20	36	809	238	198	302	1,160	522	1,530	2,020	130	66	54
21	39	568	228	2,380	290	1,060	510	1,680	1,940	126	65	53
22	38	404	213	1,680	280	1,020	500	1,900	1,820	121	64	54
23	38	187	203	735	275	1,160	542	2,160	1,640	116	64	55
24	38	139	193	602	270	1,140	598	2,380	1,540	114	63	55
25	37	119	185	510	278	888	554	2,340	1,500	110	63	54
26	36	106	177	530	260	790	526	2,250	1,530	106	64	53
27	36	101	165	725	252	705	534	2,170	1,450	103	65	52
28	37	212	155	1,240	245	646	503	2,070	1,380	102	63	52
29	37	1,220	151	3,440	---	590	468	1,390	1,340	100	62	52
30	37	516	147	2,470	---	582	461	1,740	1,290	97	61	53
31	37	---	135	2,590	---	586	---	1,690	---	94	62	---
Total	1,133	5,822	14,574	19,299	13,616	24,497	16,484	40,122	47,730	8,320	2,200	1,655
Mean	36.5	194	470	623	486	790	549	1,294	1,591	268	71.0	55.2
Max	39	1,220	1,560	3,440	1,640	3,380	742	2,380	2,120	1,240	91	61
Min	34	37	135	103	245	220	461	447	1,060	94	61	52
Ac-ft	2,250	11,550	28,910	38,280	27,010	48,590	32,700	79,580	94,670	16,500	4,360	3,280

Cal yr 1966: Total 80,620 Mean 221 Max 1,560 Min 32 Ac-ft 159,900
 Wtr yr 1967: Total 195,452 Mean 535 Max 3,440 Min 34 Ac-ft 387,700

Peak discharge (base, 2,400 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-2	2400	7.28	2,860	3-16	2100	9.23	5,680
1-21	2200	8.26	4,200	5-24	2300	7.02	2,540
1-29	0930	8.68	4,820	6-12	2300	7.38	2,990

11-4095. OREGON CREEK NEAR NORTH SAN JUAN, CALIF.

LOCATION.--Lat 39°24'10", long 121°04'35", in NW $\frac{1}{4}$ sec. 27, T.18 N., R.8 E., on right bank 0.7 mile upstream from mouth and 2.7 miles northeast of North San Juan.

DRAINAGE AREA.--34.4 sq mi.

RECORDS AVAILABLE.--September 1911 to September 1967.

GAGE.--Digital water-stage recorder. Altitude of gage is 1,580 ft (from topographic map). Prior to October 1933, staff gages at site 0.6 mile downstream at different datums. October 1933 to Sept. 27, 1962, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--56 years, 78.4 cfs (56,760 acre-ft per year).

EXTREMES.--Maximum discharge during year, 2,590 cfs Jan. 29 (gage height, 8.50 ft); minimum daily, 4.3 cfs

Oct. 1.

1911-67: Maximum discharge, 10,300 cfs Dec. 22, 1964 (gage height, 12.88 ft), from rating curve extended above 3,600 cfs on basis of slope-area measurement of maximum flow; minimum, 0.7 cfs for several days in July, August 1931, September 1934.

REMARKS.--Records good. Small diversions above station for irrigation and mining. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	4.3	6.0	223	39	648	60	158	171	139	39	17	13
2	4.4	6.0	546	37	433	59	151	185	116	37	17	13
3	4.5	6.0	502	35	346	58	151	203	103	35	17	13
4	4.6	6.0	292	34	286	57	158	230	104	34	17	12
5	4.8	5.8	627	37	247	55	162	277	122	32	17	12
6	4.9	16	663	33	218	53	236	261	116	31	17	12
7	4.6	17	422	31	197	51	267	293	112	30	17	12
8	4.6	9.0	299	31	179	50	235	338	109	31	16	12
9	4.6	7.8	215	30	163	50	221	362	102	32	17	11
10	4.7	7.5	211	29	151	53	222	407	95	30	17	11
11	4.7	7.5	179	28	142	88	209	338	90	30	17	11
12	4.9	7.8	151	28	137	94	190	286	119	28	17	11
13	5.4	7.8	142	27	136	90	191	249	130	29	16	11
14	5.5	10	135	26	138	82	199	234	104	27	17	11
15	5.8	43	120	26	123	91	195	244	94	26	17	10
16	5.8	73	109	25	114	1,170	176	269	88	26	17	10
17	5.7	24	98	24	106	871	191	274	83	26	17	10
18	5.8	17	90	24	100	554	200	264	76	25	17	10
19	5.8	21	83	23	93	417	191	244	72	24	22	10
20	5.6	161	78	98	86	361	174	235	60	23	19	10
21	5.7	131	73	1,410	81	333	170	227	62	22	17	9.8
22	6.9	121	67	737	77	304	163	215	59	22	17	10
23	6.9	50	63	332	74	368	182	200	58	21	16	10
24	6.5	35	59	263	73	329	212	188	59	20	16	9.9
25	6.2	28	56	202	77	278	199	172	55	20	16	9.9
26	6.2	24	53	217	69	238	195	156	51	19	15	9.5
27	6.2	21	49	310	65	204	200	145	46	19	15	8.8
28	6.2	71	46	601	62	190	182	138	44	19	14	8.5
29	6.2	312	45	1,580	-----	175	165	128	43	19	14	8.8
30	6.2	139	43	981	-----	169	170	118	41	18	14	8.8
31	6.2	-----	41	1,160	-----	173	-----	126	-----	18	14	-----
TOTAL	170.4	1,391.2	5,780	8,458	4,621	7,125	5,715	7,177	2,552	812	513	319.0
MEAN	5.50	46.4	186	273	165	230	191	232	85.1	26.2	16.5	10.6
MAX	6.9	312	663	1,580	648	1,170	267	407	139	39	22	13
MIN	4.3	5.8	41	23	62	50	151	118	41	18	14	8.5
AC-FT	338	2,760	11,460	16,780	9,170	14,130	11,340	14,240	5,060	1,610	1,020	633

CAL YR 1966: TOTAL 23,932.8 MEAN 65.6 MAX 663 MIN 3.4 AC-FT 47,470
WAT YR 1967: TOTAL 44,633.6 MEAN 122 MAX 1,580 MIN 4.3 AC-FT 88,530

Peak discharge (base, 1,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-02	2145	7.31	1,580	1-31	0715	7.29	1,560
1-21	2045	8.29	2,380	3-16	1615	7.71	1,880
1-29	0730	8.50	2,590				

SACRAMENTO RIVER BASIN

11-4130. NORTH YUBA RIVER BELOW GOODYEARS BAR, CALIF.

LOCATION.--Lat 39°31'30", long 120°56'13", in SW¼ sec.11, T.19 N., R.9 E., on right bank 200 ft downstream from St. Catherine Creek, 3.1 miles southwest of Goodyears Bar, and 6.4 miles southwest of Downsville.

DRAINAGE AREA.--250 sq mi.

RECORDS AVAILABLE.--October 1930 to September 1967. 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.

GAGE.--Digital water-stage recorder. Datum of gage is 2,435 ft above mean sea level (river-profile survey). Prior to Mar. 23, 1965, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--37 years, 737 cfs (533,600 acre-ft per year).

EXTREMES.--Maximum discharge during year, 7,710 cfs Mar. 16 (gage height, 11.22 ft); minimum daily, 115 cfs Oct. 31 to Nov. 1, 2, Nov. 4, 5.

1930-67: Maximum discharge, 40,000 cfs Feb. 1, 1963 (gage height, 23.8 ft, from floodmarks), from rating curve extended above 8,500 cfs on basis of one float measurement at 17,900 cfs and slope-area measurements at gage heights 19.15 and 23.8 ft; minimum, 69 cfs Aug. 26, 1931.

REMARKS.--Records good. Several small diversions above station for irrigation and mining.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	117	115	1,190	344	2,330	622	1,040	732	2,410	2,410	429	233
2	118	115	2,070	333	1,750	623	975	776	2,020	2,260	415	228
3	119	116	2,030	326	1,450	627	945	824	1,880	2,090	403	227
4	117	115	1,200	320	1,280	602	935	1,000	2,080	1,850	391	232
5	117	115	2,520	324	1,190	580	940	1,120	2,560	1,690	379	256
6	118	176	2,110	298	1,110	568	995	1,180	2,550	1,550	369	233
7	118	159	1,560	298	1,070	570	1,040	1,570	2,640	1,410	360	226
8	119	145	1,170	290	1,020	577	990	2,090	2,780	1,290	354	221
9	117	133	920	284	972	593	980	2,440	2,940	1,200	347	216
10	116	130	883	280	962	625	995	2,310	2,980	1,110	338	215
11	116	135	816	278	941	704	950	1,800	2,940	1,040	332	213
12	117	141	736	276	986	670	901	1,570	3,460	990	323	210
13	117	144	724	273	1,060	648	896	1,510	3,580	942	313	205
14	118	159	720	276	1,050	623	930	1,650	3,220	894	305	202
15	119	458	662	280	939	640	901	2,190	3,290	852	299	200
16	119	940	630	284	875	5,060	856	2,880	3,520	820	293	199
17	119	374	601	275	825	5,290	883	3,360	3,750	776	287	201
18	119	275	582	273	798	3,320	892	3,550	3,950	729	281	242
19	118	282	563	269	770	2,340	870	3,710	4,020	684	275	219
20	119	1,720	553	443	729	1,970	820	4,240	4,000	649	270	202
21	119	869	528	3,680	702	1,860	800	4,750	3,800	622	265	196
22	120	649	501	2,140	686	1,840	780	4,970	3,460	597	262	196
23	119	410	483	1,110	676	2,090	784	4,880	3,160	576	258	197
24	118	323	460	924	669	1,820	796	4,760	3,070	554	255	195
25	117	279	443	780	662	1,610	784	4,420	3,090	529	276	196
26	117	257	424	754	628	1,470	768	4,140	3,050	508	292	188
27	117	242	405	938	613	1,330	800	4,000	2,850	491	266	184
28	117	901	385	1,600	614	1,280	768	3,820	2,750	480	255	183
29	116	3,050	380	5,330	-----	1,190	736	3,530	2,700	471	247	183
30	116	1,170	370	4,040	-----	1,150	752	3,260	2,610	456	242	183
31	115	-----	356	3,450	-----	1,100	-----	3,050	-----	443	237	-----
TOTAL	3,648	14,097	26,975	30,770	27,357	43,992	26,502	86,082	91,110	30,963	9,618	6,281
MEAN	118	470	870	993	977	1,419	883	2,777	3,037	999	310	209
MAX	120	3,050	2,520	5,330	2,330	5,290	1,040	4,970	4,020	2,410	429	256
MIN	115	115	356	269	613	568	736	732	1,880	443	237	183
AC-FT	7,240	27,960	53,500	61,030	54,260	87,260	52,570	170,700	180,700	61,410	19,080	12,460

CAL YR 1966: TOTAL 203,404 MEAN 557 MAX 3,050 MIN 115 AC-FT 403,400
WAT YR 1967: TOTAL 397,395 MEAN 1,089 MAX 5,330 MIN 115 AC-FT 788,200

Peak discharge (base, 3,200 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-29	0315	8.74	4,270	3-16	2015	11.22	7,710
12-2	2245	8.18	3,620	5-21	2100	9.90	5,760
1-21	1615	9.73	5,530	6-19	2115	9.45	5,160
1-29	1100	10.88	7,180				

11-4132.5. SLATE CREEK TUNNEL NEAR STRAWBERRY VALLEY, CALIF.

LOCATION.--Lat 39°36'58", long 121°03'00", in SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.2, T.20 N., R.8 E., on right bank 30 ft upstream from diversion dam on Slate Creek, 0.3 mile upstream from Fency Ravine, and 4.5 miles northeast of town of Strawberry Valley.

RECORDS AVAILABLE.--October 1966 to September 1967. Records of daily discharge for December 1961 to September 1966 are in files of Geological Survey. Monthly diversion used to adjust Slate Creek below diversion dam near Strawberry Valley since February 1962.

GAGE.--Graphic water-stage recorder. Altitude of gage is 3,535 ft (from topographic map).

EXTREMES.--1962-67: Maximum daily discharge, 863 cfs Apr. 6, 1963; no flow for many days in each year.

REMARKS.--Records good. Tunnel diverts water from Slate Creek to Sly Creek Reservoir (see sta. no. 3954) for power development. See schematic diagram for South Fork Feather River basin.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	559	73	611	165	0	137	0	220	18	
2		0	710	68	571	164	0	175	0	180	17	
3		0	767	66	542	163	0	222	0	160	17	
4		0	538	65	497	150	0	250	0	138	17	
5		0	815	65	447	141	0	284	0	124	16	
6		0	749	54	411	139	0	347	0	113	15	
7		0	600	57	390	125	0	521	0	99	15	
8		0	412	53	368	168	0	713	0	92	5.8	
9		0	322	52	344	179	0	750	0	85	0	
10		17	333	51	345	206	95	744	0	77	0	
11		8.2	308	52	342	211	214	692	0	70	0	
12		16	271	52	377	183	207	552	280	65	0	
13		13	271	53	420	175	213	582	419	61	0	
14		13	271	59	407	164	213	633	244	57	0	
15		177	239	62	353	167	200	739	0	52	0	
16		387	213	65	317	815	186	757	0	50	0	
17		83	199	62	110	836	183	764	0	47	0	
18		53	185	59	0	413	182	744	0	42	0	
19		127	172	57	0	0	163	822	0	40	0	
20		723	166	59	0	0	159	826	0	36	0	
21		345	157	644	140	0	150	828	0	34	0	
22		193	144	771	205	0	142	830	0	32	0	
23		115	135	477	141	0	141	657	163	31	0	
24		83	127	353	178	0	137	0	318	28	0	
25		66	119	268	177	0	133	0	149	27	0	
26		59	110	239	163	0	131	0	154	25	0	
27		54	101	303	159	0	137	0	244	24	0	
28		334	94	656	163	0	129	0	193	23	0	
29		834	89	740	- - - -	0	121	0	241	22	0	
30		539	83	680	- - - -	0	123	0	272	21	0	
31		- - - -	73	646	- - - -	0	- - - -	0	- - - -	20	0	- - - -
Total	0	4,244.2	9,347	6,961	8,173	4,564	3,379	13,569	2,677	2,095	120.8	0
Mean	0	141	302	225	292	147	113	438	89.2	67.6	3.90	0
Max	0	834	815	771	611	836	218	830	419	220	18	0
Min	0	0	73	51	0	0	0	0	0	20	0	0
Ac-ft	0	8,420	18,540	13,810	16,220	9,050	6,700	26,910	5,310	4,160	240	0

Cal yr 1966: Total 54,763.5 Mean 150 Max 839 Min 0 Ac-ft 108,600
Wtr yr 1967: Total 55,135.0 Mean 151 Max 836 Min 0 Ac-ft 109,400

SACRAMENTO RIVER BASIN

11-4133. SLATE CREEK BELOW DIVERSION DAM, NEAR STRAWBERRY VALLEY, CALIF.

LOCATION.--Lat 39°36'52", long 121°03'04", in SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.2, T.20 N., R.8 E., on right bank 300 ft downstream from diversion dam, 0.2 mile upstream from Feney Ravine, and 4.5 miles northeast of town of Strawberry Valley.

DRAINAGE AREA.--49.4 sq mi.

RECORDS AVAILABLE.--October 1960 to September 1967.

GAGE.--Graphic water-stage recorder. Altitude of gage is 3,570 ft (from topographic map).

AVERAGE DISCHARGE.--7 years, 203 cfs (147,000 acre-ft per year), adjusted for diversion.

EXTREMES (creek only).--Maximum discharge during year, 3,300 cfs Jan. 29 (gage height, 9.53 ft); minimum daily, 6.0 cfs Nov. 5.

1960-67: Maximum discharge, 13,100 cfs Dec. 22, 1964 (gage height, 16.42 ft), from rating curve extended above 5,500 cfs on basis of computed flow over dam at gage heights 12.75 and 15.90 ft; minimum, 0.3 cfs Mar. 4, 5, 1962.

(combined flow).--Maximum discharge during year, 4,060 cfs Jan. 29; minimum daily, 6.0 cfs Nov. 5.

1960-67: Maximum discharge, 13,900 cfs Dec. 22, 1964; minimum daily, 2.3 cfs Nov. 23, 1961.

REMARKS.--Records good. Slate Creek Tunnel (see sta. no. 4132.5) diverts at diversion dam 300 ft upstream up to 900 cfs from Slate Creek Reservoir (capacity, 223 acre-ft) to Sly Creek Reservoir. Diversion began in February 1962. See schematic diagram for South Fork Feather River basin.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.8	6.2	8.9	9.2	373	8.9	274	11	579	10	10	15
2	7.2	6.2	234	9.6	171	3.9	250	11	503	10	10	15
3	6.8	6.2	129	9.6	51	8.9	233	11	483	9.9	10	15
4	6.8	6.2	8.9	9.6	12	8.9	223	11	503	9.9	10	15
5	6.5	6.0	259	9.6	12	3.9	220	11	551	9.9	10	16
6	6.5	6.2	7.9	9.6	12	3.9	216	12	544	9.9	10	15
7	6.5	7.5	7.9	9.6	12	12	205	14	554	9.9	10	15
8	6.5	7.9	7.5	9.6	11	8.9	205	70	562	9.9	28	14
9	6.5	7.9	7.5	9.6	11	9.2	220	142	576	9.9	38	14
10	6.5	7.5	7.5	9.6	11	9.2	136	191	576	9.9	24	14
11	6.5	7.2	7.5	9.6	11	9.6	11	16	565	9.9	22	14
12	6.2	7.2	7.5	9.6	11	9.6	11	13	306	9.6	22	14
13	6.5	7.2	7.5	9.6	12	9.6	11	13	121	9.6	21	14
14	6.5	7.2	7.5	9.6	12	9.6	11	43	304	9.6	20	13
15	6.8	7.5	7.5	9.6	11	9.6	11	176	544	9.6	20	13
16	6.8	7.9	7.2	9.6	11	1,520	11	375	562	9.6	19	13
17	6.8	7.5	7.2	9.6	147	1,070	11	530	572	9.6	12	14
18	6.8	7.2	7.2	9.6	250	705	11	576	582	9.9	8.9	16
19	6.8	7.5	7.5	9.6	238	754	11	593	568	9.9	9.6	14
20	6.8	147	7.5	9.9	218	649	11	719	520	9.9	9.9	13
21	6.8	8.9	7.5	606	92	660	11	330	468	9.9	11	13
22	6.8	8.9	7.9	165	9.6	638	11	850	417	9.9	11	13
23	6.8	8.5	9.2	11	31	854	11	970	209	9.9	13	13
24	6.8	8.5	9.2	11	9.2	684	11	1,260	32	9.9	16	13
25	6.5	8.5	9.2	11	9.2	558	11	1,110	180	9.9	16	13
26	6.5	8.2	9.2	11	9.2	471	11	990	160	10	17	12
27	6.5	8.2	9.2	11	9.2	403	11	930	63	10	16	12
28	6.5	142	9.2	98	9.2	384	11	853	107	10	16	12
29	6.5	495	9.2	1,950	-----	345	11	806	50	10	15	12
30	6.2	3.5	9.2	1,140	-----	324	11	733	10	10	16	12
31	6.2	-----	9.2	796	-----	307	-----	702	-----	10	16	-----
Total	205.2	986.4	850.4	5,001.9	1,780.6	10,471.7	2,412	13,577	11,781	305.9	486.4	411
Mean	6.62	32.9	27.4	161	63.6	338	80.4	438	393	9.87	15.7	13.7
Max	7.2	495	259	1,950	373	1,520	274	1,260	582	10	38	16
Min	6.2	6.0	7.2	9.2	9.2	8.9	11	11	10	9.6	8.9	12
Ac-ft	407	1,960	1,690	9,320	3,530	20,770	4,780	26,930	23,370	574	965	815
Mean †	6.62	174	329	386	356	485	193	876	482	78.6	19.5	13.7
Ac-ft†	407	10,380	20,230	23,730	19,750	29,820	11,480	53,840	28,580	4,830	1,200	815

Cal yr 1966: Total 8,475.1 Mean 23.2 Max 517 Min 6.0 Ac-ft 16,810 Mean † 173 Ac-ft † 125,400
 Wtr yr 1967: Total 48,269.5 Mean 132 Max 1,950 Min 6.0 Ac-ft 95,740 Mean † 283 Ac-ft † 205,100

† Adjusted for diversion to Slate Creek Tunnel.

11-4135.1. COLGATE POWERPLANT NEAR FRENCH CORRAL, CALIF.

LOCATION.--Lat 39°19'51", long 121°11'18", in NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.16, T.17 N., R.7 E., at powerplant on right bank of Yuba River, 0.3 mile upstream from Dobbins Creek and 2.3 miles northwest of French Corral.

RECORDS AVAILABLE.--October 1966 to September 1967.

GAGE.--Recorded output from powerplant turbines.

EXTREMES.--Maximum daily discharge, 554 cfs June 29; no flow for several days.

REMARKS.--Water is diverted from North Yuba River 0.9 mile upstream from station at North Yuba River below New Bullards Bar Dam near North San Juan (see sta. no. 4135.2). Browns Valley Ditch diverts up to 10 cfs from the head of the penstock for use in irrigation.

COOPERATION.--Records furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	183	0	541	506	532	464	314	541	536	545	489	280
2	129	0	532	494	528	476	532	541	541	545	453	280
3	144	0	528	489	532	476	545	541	541	549	502	280
4	144	0	532	502	532	381	545	541	541	549	502	280
5	147	0	515	361	404	519	545	541	541	545	506	278
6	142	0	515	489	532	519	545	541	541	541	511	267
7	142	0	485	506	541	494	541	541	541	519	511	261
8	142	75	524	506	541	519	536	545	536	502	511	267
9	142	384	524	506	545	524	532	541	536	515	506	272
10	124	356	532	511	325	524	532	541	536	519	502	267
11	0	519	532	472	0	519	464	541	541	519	506	264
12	0	511	532	536	0	519	536	541	541	519	412	253
13	0	511	532	536	0	515	545	541	536	519	419	242
14	0	519	524	536	0	519	541	541	536	519	367	245
15	0	532	438	536	0	524	541	541	536	519	364	234
16	0	418	515	541	0	481	536	541	536	519	361	239
17	0	0	519	541	0	524	541	541	536	519	367	375
18	0	54	524	541	0	524	541	541	541	515	339	378
19	0	532	528	536	0	519	541	536	536	515	341	272
20	0	336	528	536	314	506	541	536	468	515	341	0
21	0	511	528	481	375	387	541	536	524	515	341	0
22	0	549	528	178	472	524	541	536	528	515	314	72
23	0	541	524	519	472	524	541	536	532	515	300	327
24	0	536	524	545	464	528	541	536	532	515	300	314
25	0	545	524	541	472	524	541	536	541	511	300	333
26	0	532	524	541	476	524	536	536	541	515	314	294
27	0	532	524	545	476	524	364	536	545	506	322	291
28	0	532	519	545	472	524	459	536	545	506	339	291
29	0	532	524	541	- - - -	524	541	536	554	506	333	291
30	248	532	356	541	- - - -	524	511	536	549	506	315	305
31	0	- - - -	506	532	- - - -	524	- - - -	536	- - - -	489	280	- - - -
Total	1,687	10,089	15,981	15,690	9,005	15,677	15,610	16,710	16,088	16,106	12,263	7,752
Mean	54.4	336	516	506	322	506	520	539	536	520	396	258
Max	248	549	541	545	545	528	545	554	554	549	511	378
Min	0	0	356	178	0	381	314	536	468	489	280	0
Ac-ft	3,350	20,010	31,700	31,120	17,860	31,090	30,960	33,140	31,910	31,950	24,330	15,380
Cal yr 1966: Total	-	-	Mean	-	Max	-	Min	-	Ac-ft	-	-	-
Wtr yr 1967: Total	152,663	Mean	418	Max	554	Min	0	Ac-ft	302,800	-	-	-

SACRAMENTO RIVER BASIN

11-4135.2. NORTH YUBA RIVER BELOW NEW BULLARDS BAR DAM NEAR NORTH SAN JUAN, CALIF.

LOCATION.--Lat 39°22'48", long 121°08'19", in SW¼NE¼ sec.36, T.18 N., R.7 E., on right bank 1.1 mile downstream from New Bullards Bar Dam, and 2 miles northwest of North San Juan.

DRAINAGE AREA.--490 sq mi.

RECORDS AVAILABLE.--Aug. 13, 1966 to Sept. 30, 1967.

GAGE.--Digital water-stage recorder. Altitude of gage is 1,280 ft (from topographic map).

EXTREMES.--1966: Maximum discharge during period August to September, 51 cfs Sept. 15 (gage height, 2.77 ft); minimum daily, 0.7 cfs Sept. 12.

1966-67: Maximum discharge during year, 21,600 cfs Jan. 21 (gage height, 23.45 ft), from rating curve extended above 13,000 cfs on basis of computation of flow over dam at 49.8 ft; minimum daily, 0.42 cfs Nov. 5.

REMARKS.--Records good. Flow regulated below 650 cfs by Bullards Bar powerplant, otherwise, slightly regulated by Bullards Bar Reservoir (usable capacity, 13,050 acre-ft). New Bullards Bar Dam is under construction downstream from the present dam. Colgate powerplant (see sta. no. 4135.1) diverts 0.9 mile upstream. Water is diverted out of basin through Slate Creek Tunnel (see sta. no. 4132.5).

Discharge, in cubic feet per second, 1966

Day	Aug.	Sept.	Day	Aug.	Sept.	Day	Aug.	Sept.	Day	Aug.	Sept.	Day	Aug.	Sept.
1	-	0.8	7	-	2.8	13	2.9	3.3	19	3.5	2.0	25	1.6	1.0
2	-	.8	8	-	.9	14	1.5	3.1	20	2.4	3.5	26	2.4	1.3
3	-	1.0	9	-	1.0	15	.8	8.3	21	1.0	12	27	2.2	1.3
4	-	1.3	10	-	3.8	16	2.0	5.0	22	2.2	2.4	28	1.9	2.9
5	-	1.2	11	-	1.8	17	1.8	6.2	23	2.0	2.2	29	1.0	5.0
6	-	2.0	12	-	.7	18	9.8	1.6	24	1.1	1.0	30	.8	6.5
												31	.9	-
Total.....													-	86.7
Mean.....													-	2.89
Runoff in acre-feet.....													-	172

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	6.5	1.1	2,000	109	6,520	574	2,090	1,000	3,930	2,470	74	17
2	5.9	.5	5,600	86	4,070	578	1,700	1,020	3,200	2,260	82	17
3	3.5	.5	5,540	73	3,230	573	1,590	1,140	2,810	2,150	55	14
4	2.2	.5	2,420	68	2,550	624	1,560	1,360	2,930	1,860	50	14
5	1.5	.4	5,800	62	2,300	448	1,630	1,780	3,440	1,630	43	18
6	1.3	1.1	4,680	58	2,000	413	2,080	1,700	3,620	1,470	41	16
7	1.3	.7	3,290	52	1,800	419	2,350	2,220	3,640	1,330	32	20
8	.91	4.1	2,340	49	1,650	402	2,040	3,080	3,710	1,140	16	19
9	1.5	12	1,630	47	1,550	413	1,920	3,950	3,940	985	16	18
10	2.0	17	1,410	39	1,870	463	1,900	4,370	3,950	876	23	18
11	13	38	1,270	26	2,010	806	1,770	3,290	3,980	790	19	18
12	9.5	34	952	21	2,000	782	1,470	2,700	3,930	720	23	16
13	12	30	838	20	2,140	815	1,400	2,450	4,640	654	19	16
14	7.7	26	840	19	2,180	684	1,480	2,480	3,820	603	21	15
15	3.7	18	844	19	1,960	626	1,460	3,070	4,130	552	21	18
16	3.7	269	655	17	1,810	9,370	1,330	4,400	4,200	502	22	26
17	1.6	553	582	16	1,700	12,400	1,330	5,310	4,560	459	15	50
18	1.1	391	510	15	1,830	6,850	1,540	5,760	4,860	406	15	50
19	1.5	39	459	13	1,680	5,320	1,460	5,730	4,930	368	15	30
20	1.3	1,750	423	25	1,250	4,110	1,350	6,330	4,990	321	16	2.9
21	1.2	1,760	397	5,880	1,050	4,070	1,240	7,250	4,580	291	15	4.0
22	1.0	1,260	357	8,490	774	3,880	1,160	7,640	4,210	262	12	7.6
23	2.4	405	323	2,630	726	4,530	1,220	7,400	3,710	236	13	9.7
24	2.9	146	294	2,010	713	4,210	1,420	7,540	3,200	214	14	11
25	1.8	31	260	1,650	729	3,500	1,330	7,150	3,170	195	14	8.1
26	1.9	20	234	1,380	659	3,000	1,270	6,370	3,420	170	14	4.0
27	1.7	18	202	1,750	601	2,560	1,570	6,060	2,980	147	20	3.0
28	1.6	100	165	2,930	574	2,410	1,200	5,840	2,850	131	22	2.9
29	19	3,500	138	13,400	-----	2,270	1,080	5,220	2,810	118	14	2.9
30	44	1,700	147	10,900	-----	2,100	1,040	4,800	2,630	109	13	7.8
31	7.7	-----	126	10,700	-----	2,110	-----	4,540	-----	99	17	-----
TOTAL	166.91	12,125.9	44,726	62,554	51,926	81,310	45,980	132,950	112,770	23,518	786	473.9
MEAN	5.38	404	1,443	2,018	1,855	2,623	1,533	4,289	3,759	759	25.4	15.8
MAX	44	3,500	5,800	13,400	6,520	12,400	2,350	7,640	4,990	2,470	82	50
MIN	.91	.40	126	13	574	402	1,040	1,000	2,630	99	12	2.9
AC-FT	331	24,050	88,710	124,100	103,000	161,300	91,200	263,700	223,700	46,650	1,560	940

CAL YR 1966: TOTAL - MEAN - MAX - MIN - AC-FT -
WAT YR 1967: TOTAL 569,286.71 MEAN 1,560 MAX 13,400 MIN .40 AC-FT 1,129,000

SACRAMENTO RIVER BASIN

887

11-4140. SOUTH YUBA RIVER NEAR CISCO, CALIF.

LOCATION.--Lat 39°19'12", long 120°33'38", in SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.19, T.17 N., R.13 E., on right bank 0.7 mile downstream from Rattlesnake Creek, 1.3 miles west of Cisco Grove, and 1.5 miles northwest of Cisco.

DRAINAGE AREA.--51.8 sq mi.

RECORDS AVAILABLE.--April 1942 to September 1967. Prior to October 1949, published as South Fork Yuba River near Cisco.

GAGE.--Digital water-stage recorder. Altitude of gage is 5,520 ft (from river-profile map). Prior to October 1945, graphic water-stage recorder at site 200 ft upstream at same datum. October 1945 to Mar. 22, 1965, graphic water-stage recorder at present site and datum.

AVERAGE DISCHARGE.--25 years, 196 cfs (141,900 acre-ft per year).

EXTREMES.--Maximum discharge during year, 2,550 cfs May 21 (gage height, 8.06 ft); minimum daily, 13 cfs Oct. 5, 6, 9-12.

1942-67: Maximum discharge, 18,400 cfs Jan. 31, 1963 (gage height, 19.6 ft, from floodmarks in gage house, 20.6 ft, from outside floodmarks), from rating curve extended above 4,600 cfs on basis of slope-area measurement at gage height 15.8 ft; minimum daily, 0.1 cfs Nov. 5-7, 1954.

REMARKS.--Records excellent. Low flow regulated by Lake Van Norden (capacity, 4,320 acre-ft, 5,260 acre-ft with flashboards).

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	18	14	314	52	180	108	132	72	606	1,190	38	46
2	15	14	317	51	134	109	114	90	452	1,140	35	41
3	15	14	356	51	116	121	101	131	462	975	34	39
4	14	14	182	52	107	98	102	186	772	831	51	39
5	13	14	395	53	109	86	101	155	1,130	782	51	38
6	13	20	350	45	109	88	98	214	1,020	698	49	36
7	14	20	204	46	115	104	102	480	1,150	602	47	34
8	14	18	152	43	113	121	100	726	1,320	515	46	33
9	13	16	131	43	113	140	107	795	1,370	434	46	33
10	13	16	141	44	124	134	114	522	1,280	438	44	32
11	13	18	145	48	124	108	104	320	1,210	407	43	30
12	13	17	126	52	140	92	98	254	1,220	380	42	28
13	14	17	126	48	155	89	106	272	1,240	365	41	25
14	14	18	117	56	146	90	109	442	1,230	323	40	29
15	14	46	109	65	114	91	104	804	1,360	290	39	49
16	14	190	110	69	100	1,550	92	1,150	1,520	257	37	51
17	14	63	107	60	95	1,440	88	1,340	1,670	220	36	74
18	14	42	106	57	105	764	98	1,260	1,700	181	36	76
19	14	63	105	52	107	442	90	1,290	1,550	131	35	71
20	14	383	110	50	93	305	83	1,580	1,540	107	34	69
21	14	101	102	82	90	263	78	1,830	1,560	98	34	68
22	14	67	96	77	93	269	76	1,830	1,460	90	33	67
23	14	55	92	77	96	269	74	1,730	1,340	98	33	66
24	14	48	86	67	95	222	74	1,700	1,400	80	46	64
25	14	43	83	62	87	243	69	1,610	1,470	70	46	62
26	14	41	78	76	79	246	67	1,580	1,430	61	58	60
27	14	39	72	148	81	212	70	1,520	1,330	54	53	54
28	14	645	70	206	95	187	73	1,410	1,350	48	51	45
29	14	1,200	69	570	-----	167	68	1,280	1,350	49	49	42
30	15	332	57	466	-----	147	70	1,160	1,310	45	48	40
31	15	-----	53	305	-----	141	-----	935	-----	41	47	-----
TOTAL	436	3,588	4,561	3,173	3,115	8,446	2,762	28,668	37,802	10,990	1,322	1,441
MEAN	14.1	120	147	102	111	272	92.1	925	1,260	355	42.6	48.0
MAX	18	1,200	395	570	180	1,550	132	1,830	1,700	1,190	58	76
MIN	13	14	53	43	79	86	67	72	452	41	33	25
AC-FT	865	7,120	9,050	6,290	6,180	16,750	5,480	56,860	74,980	21,800	2,620	2,860

CAL YR 1966: TOTAL 53,339 MEAN 146 MAX 1,200 MIN 10 AC-FT 105,800
WAT YR 1967: TOTAL 106,304 MEAN 291 MAX 1,830 MIN 13 AC-FT 210,900

Peak discharge (base, 1,500 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-29	0600	6.76	1,690	6-8	2100	7.39	2,070
3-16	1945	7.49	2,140	6-18	1815	7.64	2,250
5-21	1930	8.06	2,550				

SACRAMENTO RIVER BASIN

11-4141. FORDYCE CREEK BELOW FORDYCE DAM, NEAR CISCO, CALIF.

LOCATION.--Lat 39°22'45", long 120°29'52", in NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec.34, T.18 N., R.13 E., on right bank 850 ft downstream from Fordyce Dam and 5.3 miles northeast of Cisco.

DRAINAGE AREA.--31.7 sq mi.

RECORDS AVAILABLE.--June 1966 to September 1967.

GAGE.--Graphic water-stage recorder. Altitude of gage is 6,250 ft (from topographic map).

EXTREMES.--Maximum discharge during year, 1,610 cfs June 18 (gage height, 4.92 ft), from rating curve extended above 750 cfs; minimum daily, 6.0 cfs Nov. 5-14.
1966-67: Maximum discharge, 1,610 cfs June 18, 1967 (gage height, 4.92 ft), from rating curve extended above 750 cfs; minimum daily, 6.0 cfs Nov. 5-14, 1966.

REMARKS.--Records good. Flow regulated by Fordyce Dam 850 ft above station (usable capacity, 46,700 acre-ft).

COOPERATION.--Water-stage recorder graph and 11 discharge measurements furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	170	10	10	13	16	18	20	21	506	1,370	179	325
2	168	9.6	11	13	16	18	20	22	386	1,230	179	330
3	165	9.2	11	13	16	18	20	22	305	1,110	179	325
4	165	7.0	11	13	16	18	20	22	300	900	179	320
5	165	6.0	13	13	16	18	21	22	398	796	176	325
6	165	6.0	12	13	16	18	21	22	440	630	176	325
7	165	6.0	11	13	16	18	21	23	285	581	176	320
8	162	6.0	11	13	16	120	21	24	155	542	216	330
9	162	6.0	11	13	16	200	21	24	152	518	264	340
10	160	6.0	11	13	16	197	22	23	165	344	272	335
11	160	6.0	11	13	16	197	22	23	185	320	290	330
12	159	6.0	11	13	16	197	22	23	280	340	290	330
13	158	6.0	12	13	16	197	22	24	422	345	290	335
14	158	6.0	12	14	16	197	22	25	623	350	285	335
15	155	7.0	12	14	16	197	22	26	804	320	285	330
16	155	8.9	12	14	16	204	22	27	960	295	285	330
17	152	6.7	12	14	16	197	22	28	1,260	228	285	325
18	152	6.4	12	14	16	197	22	28	1,340	152	285	320
19	152	7.4	12	14	16	200	22	29	870	138	285	320
20	152	10	12	14	16	99	22	31	780	138	295	320
21	150	7.4	104	14	16	20	22	31	1,180	134	320	315
22	148	7.2	204	14	17	20	21	33	1,230	125	315	315
23	148	7.2	200	14	17	20	21	34	1,050	117	310	310
24	212	7.2	197	14	17	20	21	35	1,040	77	315	305
25	305	7.2	197	14	17	20	21	36	1,250	54	315	300
26	300	7.2	194	14	17	20	21	38	1,370	137	315	295
27	295	7.2	191	15	17	20	21	136	1,300	182	315	290
28	285	11	105	14	17	20	21	380	1,230	182	320	305
29	280	12	13	18	-----	20	21	506	1,310	182	315	300
30	272	9.6	13	16	-----	20	21	581	1,380	182	310	295
31	153	-----	13	16	-----	20	-----	574	-----	182	310	-----
Total	5,747	2,254	1,661	430	455	2,745	638	2,873	22,956	12,201	8,331	9,580
Mean	185	7.51	53.6	13.9	16.2	88.5	21.3	92.7	765	394	269	319
Max	305	12	204	18	17	204	22	581	1,380	1,370	320	340
Min	148	6.0	10	13	16	18	20	21	152	54	176	290
Ac-ft	11,400	447	3,290	853	902	5,440	1,270	5,700	45,530	24,200	16,520	19,000
Cal yr 1966: Total	-	-	-	-	-	-	-	-	-	-	-	-
Wtr yr 1967: Total	67,842.4	-	186	-	1,380	-	6.0	-	134,600	-	-	-

LOCATION.--Lat 39°19'35", long 120°38'32", in SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.20, T.17 N., R.12 E., on left abutment of Spaulding Dam on South Yuba River 2.5 miles northeast of Emigrant Gap.

RECORDS AVAILABLE.--October 1964 to September 1967.

GAGE.--Staff gage read daily. Datum of gage is 4,809.6 ft above mean sea level (levels by Pacific Gas and Electric Co.).

EXTREMES.--Maximum contents during year, 75,100 acre-ft July 13 (gage height, 205.5 ft); minimum, 9,660 acre-ft Mar. 8 (gage height, 70.1 ft).
1964-67: Maximum contents, 75,100 acre-ft July 13, 1967 (gage height, 205.5 ft); minimum, 9,660 acre-ft Mar. 8, 1967 (gage height, 70.1 ft).

REMARKS.--Lake is formed by three concrete-arch dams with spillway on the middle arch. Storage began in 1913. Capacity, 74,800 acre-ft from gage heights 0.6 (bottom of outlet) and 205.0 ft (top of radial gates). Released water flows through Spaulding powerhouses Nos. 1 and 2. Flow through powerhouse No. 1 is transported out of Yuba River basin by Drum Canal to Bear River basin.

COOPERATION.--Record of contents furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project.

11	329	50	4,580
15	427	70	9,630
20	566	100	19,500
25	874	150	41,500
30	1,350	200	71,300
40	2,740	206	75,500

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	64.4	43.4	38.3	33.2	26.4	12.8	46.8	23.7	66.5	74.2	65.4	56.0
2	64.1	42.6	39.6	33.1	26.0	12.4	45.9	23.7	67.5	73.9	64.8	55.8
3	63.4	41.9	40.9	33.0	25.1	12.3	45.1	23.7	67.7	73.8	64.3	55.6
4	62.7	41.2	40.7	32.9	24.4	11.7	44.4	23.7	68.6	73.6	63.8	55.5
5	62.0	40.4	41.9	32.9	23.7	11.2	43.6	23.7	70.9	74.1	63.2	55.3
6	61.2	39.8	42.8	32.8	23.1	10.7	43.2	23.7	71.9	74.1	62.6	55.1
7	60.5	39.2	42.7	31.9	22.9	10.2	42.2	23.7	71.8	73.7	62.0	54.9
8	59.6	38.5	42.3	31.0	23.0	9.6	41.5	22.6	71.4	74.5	61.5	54.7
9	58.7	37.7	41.5	30.1	22.9	10.5	40.8	24.7	71.6	74.6	61.1	54.5
10	57.9	37.0	40.9	29.2	22.9	11.5	40.2	26.2	71.5	74.5	60.7	54.3
11	57.1	36.3	40.3	28.2	22.9	12.2	39.6	26.3	71.4	74.6	60.4	54.0
12	56.2	35.6	39.5	27.3	23.0	12.8	38.8	26.1	71.4	74.8	60.0	53.6
13	55.3	34.8	38.7	26.5	23.1	13.4	38.2	26.0	71.7	75.1	59.7	53.2
14	54.5	34.1	38.0	25.5	22.8	14.5	37.6	26.0	71.8	75.0	59.4	52.9
15	53.5	33.6	37.2	24.7	22.4	14.7	36.9	27.4	71.9	74.8	59.1	52.5
16	52.8	34.0	36.3	23.8	21.4	19.3	36.0	29.9	71.8	74.6	58.9	53.5
17	51.9	33.7	35.5	23.0	20.7	27.8	35.2	33.6	71.8	74.4	59.3	54.5
18	51.0	33.2	34.6	22.1	19.7	32.2	34.5	36.8	71.8	74.0	58.9	54.1
19	50.2	32.6	33.9	21.6	18.8	34.6	33.6	40.1	71.6	73.5	58.5	53.8
20	49.3	34.0	32.9	21.4	18.0	37.5	32.5	43.3	71.5	72.9	58.2	53.6
21	48.6	34.3	32.0	22.9	17.1	38.1	31.3	47.8	74.1	72.3	57.8	53.3
22	47.7	33.9	31.6	24.0	16.2	39.8	30.5	53.0	74.4	71.7	57.5	52.9
23	46.8	33.5	31.3	23.7	15.5	41.5	29.6	58.3	73.6	71.0	57.3	52.5
24	45.9	33.0	32.2	22.6	14.7	42.9	28.7	62.0	73.7	70.3	57.2	52.2
25	45.3	32.4	32.5	22.6	14.6	44.2	27.8	65.9	74.3	69.5	57.0	51.8
26	44.8	31.8	32.7	22.2	14.3	45.5	27.0	66.0	74.6	68.7	56.9	51.4
27	44.7	31.3	32.9	22.0	13.8	46.6	26.2	66.7	74.3	68.1	56.8	51.1
28	44.5	31.5	33.3	21.4	13.2	47.6	25.3	66.8	74.1	67.5	56.7	50.7
29	44.3	37.0	33.4	23.3	-----	48.0	24.5	66.7	74.5	67.0	56.5	50.2
30	44.2	38.1	33.3	25.3	-----	48.7	23.7	66.7	74.4	66.5	56.3	49.7
31	44.0	-----	33.2	26.5	-----	47.5	-----	66.6	-----	65.9	56.2	-----
(+)	154.7	143.2	133.0	117.8	81.6	161.1	110.9	192.9	204.5	191.8	176.3	165.1
(-)	-20.700	-5.900	-4.900	-6.700	-13.300	+34.300	-23.300	+42.900	+7.300	-3.500	-9.700	-6.500
Max	64.400	43.400	42.800									

Calendar year 1966.....	±	+2,500	Max	72,700	Min	12,400
Water year 1966-67.....	±	-15,000	Max	75,100	Min	9,660

† Gage height, in feet, at end of month.
‡ Change in contents, in acre-feet.

SACRAMENTO RIVER BASIN

11-4141.7. DRUM CANAL AT INTAKE NEAR EMIGRANT GAP, CALIF.

LOCATION (revised).--Lat 39°19'28", long 120°38'37", in NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.20, T.17 N., R.12 E., in Spaulding No. 1 powerhouse and 2.4 miles northeast of Emigrant Gap.

RECORDS AVAILABLE.--October 1964 to September 1967.

GAGE.--Graphic water-stage recorder. Altitude of gage is 4,880 ft (from topographic map).

EXTREMES.--1964-67: Maximum daily discharge, 741 cfs Mar. 23, 1966; no flow for many days in most years.

REMARKS.--Records good. Canal diverts from Spaulding No. 1 powerhouse at Lake Spaulding Dam. Water is used for irrigation and power in the Bear River basin.

COOPERATION.--Water-stage recorder graph and 14 discharge measurements furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	507	504	501	305	695	549	719	708	711	721	689	612
2	507	504	502	305	696	541	721	711	713	722	689	612
3	508	501	685	306	720	537	718	712	712	722	691	612
4	508	499	711	308	733	554	716	712	713	724	693	611
5	479	499	680	310	734	552	716	710	719	724	690	609
6	508	499	695	384	537	553	713	704	718	724	691	612
7	503	499	700	736	420	517	720	692	717	728	690	612
8	508	499	706	737	390	349	724	707	716	728	691	611
9	504	499	730	737	407	317	724	709	713	727	690	611
10	506	499	736	737	403	405	722	710	710	727	690	661
11	504	495	728	737	407	250	720	709	707	727	691	701
12	505	499	736	737	407	253	724	706	703	725	690	701
13	504	499	732	736	568	326	724	708	698	722	691	701
14	507	499	736	736	731	361	722	706	703	722	692	699
15	506	499	737	736	737	382	720	703	701	723	715	437
16	506	498	737	737	735	393	720	708	696	722	450	0
17	509	498	737	737	735	148	719	708	696	722	571	304
18	509	498	735	692	735	0	718	706	696	718	696	702
19	482	498	737	486	733	0	720	704	692	718	694	704
20	508	478	737	405	733	0	717	703	689	720	694	704
21	448	492	737	177	733	0	717	705	687	720	696	706
22	509	498	522	203	734	0	717	703	685	720	612	705
23	509	499	305	480	735	0	715	702	689	722	613	706
24	509	499	305	703	632	0	717	694	694	724	618	706
25	490	499	305	702	380	0	713	707	698	724	606	706
26	508	498	305	699	380	0	712	704	701	721	595	706
27	509	499	303	642	471	0	711	705	703	727	595	709
28	508	499	303	700	549	0	710	703	714	708	551	706
29	508	498	271	684	---	110	710	707	719	691	595	705
30	505	500	305	678	---	523	709	712	722	689	594	705
31	504	---	305	693	---	722	---	711	---	689	604	---
Total	15,585	14,943	18,064	17,965	16,870	8,342	21,528	21,889	21,135	22,301	20,167	18,876
Mean	503	498	583	580	602	269	718	706	704	719	651	629
Max	509	504	737	737	737	722	724	712	722	728	715	709
Min	448	478	271	177	380	0	709	692	685	689	450	0
Ac-ft	30,910	29,640	35,830	35,630	33,460	16,550	42,700	43,420	41,920	44,230	40,000	37,440

Cal yr 1966: Total 168,514.2 Mean 462 Max 741 Min 2.2 Ac-ft 334,200
 Wtr yr 1967: Total 217,665 Mean 596 Max 737 Min 0 Ac-ft 431,700

SACRAMENTO RIVER BASIN

891

11-4141.9. DRUM CANAL ABOVE DRUM FOREBAY, NEAR BLUE CANYON, CALIF.

LOCATION.--Lat 39°15'50", long 120°43'45", in NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.10, T.16 N., R.11 E., on right bank 1.2 miles west of Blue Canyon and 1.5 miles upstream from Drum Forebay.

RECORDS AVAILABLE.--October 1964 to September 1967.

GAGE.--Digital water-stage recorder. Altitude of gage is 4,800 ft (from topographic map). Prior to Mar. 21, 1967, graphic water-stage recorder at same site and datum.

EXTREMES.--1964-67: Maximum daily discharge, 766 cfs Apr. 6-8, 1966; no flow at times in 1965, 1966.

REMARKS.--Records excellent.

COOPERATION.--Recorder charts, tapes, and 17 discharge measurements furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	532	532	518	294	674	548	701	703	718	719	732	652
2	534	530	615	294	671	538	703	715	716	720	735	652
3	538	532	661	294	694	532	701	720	713	720	737	650
4	540	532	686	296	716	548	702	718	710	722	737	650
5	488	532	671	297	716	548	699	720	716	723	735	648
6	538	534	684	337	562	548	684	714	712	725	736	655
7	528	530	680	705	429	520	703	706	710	728	735	652
8	532	528	678	703	385	339	708	693	709	729	735	650
9	526	534	705	703	404	307	709	688	709	728	735	650
10	528	532	718	707	406	395	711	701	708	728	737	692
11	526	530	709	703	412	106	712	721	709	728	737	732
12	530	534	716	705	413	101	717	723	713	727	735	730
13	530	534	709	703	433	151	719	727	710	727	736	730
14	532	536	713	705	711	182	713	694	713	727	735	730
15	532	534	716	705	709	206	705	684	714	729	711	462
16	534	530	716	705	711	278	704	705	715	729	442	40
17	536	528	716	705	709	205	705	688	716	730	647	234
18	536	526	716	672	709	30	704	705	717	729	729	722
19	511	528	711	480	701	21	705	722	717	729	729	724
20	528	520	711	420	705	7.8	702	716	718	730	729	726
21	476	502	713	230	705	4.0	700	709	714	730	729	726
22	534	502	512	213	705	4.8	702	706	715	729	655	724
23	534	502	297	446	707	8.7	701	711	714	729	657	726
24	532	502	297	682	628	9.4	701	711	716	732	660	726
25	514	500	297	678	374	10	698	715	717	732	651	726
26	532	498	296	680	372	8.7	700	714	716	714	640	728
27	532	500	296	603	458	6.0	703	712	714	732	640	730
28	522	514	296	686	548	6.9	703	712	718	734	599	730
29	526	516	270	716	-----	94	701	717	720	734	628	730
30	528	506	294	686	-----	478	702	716	721	734	631	732
31	530	-----	294	680	-----	703	-----	718	-----	734	646	-----
TOTAL	16,339	15,658	17,611	17,433	16,367	7,444.3	21,118	22,004	21,428	22,561	21,420	19,659
MEAN	527	522	568	562	585	240	704	710	714	728	691	655
MAX	540	536	718	716	716	703	719	727	721	734	737	732
MIN	476	498	270	213	372	4.0	684	684	708	714	442	40
AC-FT	32,410	31,060	34,930	34,580	32,460	14,770	41,890	43,640	42,500	44,750	42,490	38,990

CAL YR 1966: TOTAL 174,350.00

MEAN 478

MAX 766

MIN 0

AC-FT 345,800

WAT YR 1967: TOTAL 219,042.3

MEAN 600

MAX 737

MIN 4.0

AC-FT 434,500

SACRAMENTO RIVER BASIN

11-4142. SOUTH YUBA CANAL NEAR EMIGRANT GAP, CALIF.

LOCATION.--Lat 39°18'45", long 120°39'45", in SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.30, T.17 N., R.12 E., on left bank of concrete flume 400 ft downstream from Bowman Lake Road and 2.5 miles northeast of Emigrant Gap.

RECORDS AVAILABLE.--October 1964 to September 1967.

GAGE.--Graphic water-stage recorder and concrete control. Altitude of gage is 4,640 ft (from topographic map).

EXTREMES.--1964-67: Maximum daily discharge, 165 cfs Aug. 3, 1965; no flow Apr. 20-22, 1966.

REMARKS.--Records good. Canal diverts from South Yuba River below Lake Spaulding. Water is diverted to Deer Creek powerhouse where it enters Deer Creek.

COOPERATION.--Water-stage recorder graph and 13 discharge measurements furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	99	99	76	79	142	135	153	148	146	148	145	147
2	99	99	77	77	142	134	154	146	146	148	145	146
3	99	99	72	77	142	133	147	145	146	148	145	146
4	99	99	79	76	142	95	142	112	147	148	145	146
5	98	99	75	74	142	75	141	124	147	148	144	146
6	101	98	113	74	142	78	140	141	147	148	143	146
7	103	96	154	73	142	78	140	143	147	148	143	146
8	100	99	155	75	143	78	140	125	147	148	143	146
9	99	99	154	74	143	78	140	134	147	148	145	147
10	99	99	154	77	144	80	140	150	147	149	146	147
11	99	98	152	76	144	94	140	149	147	150	142	147
12	98	98	151	75	144	95	140	149	147	150	138	147
13	98	97	150	75	143	95	141	149	147	150	139	147
14	97	83	154	74	142	95	145	148	147	150	136	147
15	97	76	153	74	140	96	152	148	147	150	56	140
16	96	74	152	74	140	82	155	150	147	150	32	131
17	96	76	151	77	136	71	155	148	147	150	139	138
18	97	75	150	77	140	28	155	147	148	150	138	146
19	97	74	149	77	139	11	154	147	148	150	147	146
20	98	76	149	82	138	20	154	147	148	148	147	147
21	102	74	148	93	136	20	157	148	148	146	147	147
22	100	74	151	80	135	21	155	149	147	146	147	147
23	98	74	152	80	134	22	154	145	147	145	148	146
24	98	74	154	86	134	22	154	147	147	145	147	146
25	96	74	154	95	138	22	153	147	148	146	147	145
26	98	74	153	107	138	67	152	147	147	146	147	145
27	100	73	123	140	137	154	105	146	147	145	147	145
28	99	77	77	142	136	155	123	146	147	146	148	145
29	99	78	80	143	-----	155	149	146	145	146	148	145
30	98	76	77	143	-----	154	149	146	147	145	148	145
31	96	-----	77	142	-----	154	-----	147	-----	145	146	-----
Total	3035	2561	3966	2768	3918	2597	4379	4464	4410	4580	4278	4355
Mean	98.5	85.4	128	89.3	140	83.8	146	144	147	148	138	145
Max	103	99	154	143	144	155	157	150	148	150	148	147
Min	96	73	72	73	134	11	105	112	145	145	32	131
Ac-ft	6060	5080	7870	5490	7770	5150	8690	8850	8750	9080	8490	8640

Cal yr1966: Total 35,605 Mean 97.5 Max 160 Min 0 Ac-ft 70,620
Wtr yr1967: Total 45,329 Mean 124 Max 157 Min 11 Ac-ft 89,910

11-4142.5. SOUTH YUBA RIVER AT LANGS CROSSING, NEAR EMIGRANT GAP, CALIF.

LOCATION.--Lat 39°19'07", long 120°39'27", in SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.20, T.17 N., R.12 E., on right bank 150 ft downstream from road bridge, 0.8 mile downstream from Spaulding Nos. 1 and 2 powerplants, and 1.6 miles northeast of Emigrant Gap.

DRAINAGE AREA.--120 sq mi.

RECORDS AVAILABLE.--December 1965 to September 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is 4,432.44 ft above mean sea level (levels by Pacific Gas and Electric Co.).

EXTREMES.--Maximum discharge during year, 3,550 cfs June 17 (gage height, 9.61 ft); minimum daily, 3.2 cfs Aug. 17.

1965-67: Maximum discharge, 3,550 cfs June 17 (gage height, 9.61 ft); minimum daily, 3.2 cfs Dec. 21-23, 1965, Aug. 17, 1967.

REMARKS.--Records good. Flow regulated by Lake Spaulding (see sta. no. 4141.4).

COOPERATION.--Water-stage recorder graph and 19 discharge measurements furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.0	5.7	3.4	3.8	23	9.2	23	10	572	2330	6.3	6.6
2	6.0	5.7	65	3.8	22	9.2	21	12	74	2090	6.0	6.6
3	6.0	5.7	40	4.6	19	3.8	15	19	172	1350	6.0	6.6
4	5.4	5.7	26	6.3	13	3.2	11	21	212	1330	5.4	6.9
5	15	5.7	67	6.6	19	3.5	10	20	456	970	5.4	6.9
6	34	3.8	56	6.6	13	3.8	11	26	1210	1170	5.1	6.9
7	34	7.6	32	6.3	13	3.8	12	34	1560	729	4.8	6.9
8	32	6.9	24	6.3	17	8.2	13	46	1460	271	4.6	6.9
9	32	6.3	20	6.3	16	7.6	14	55	1530	436	4.6	6.9
10	20	6.3	24	5.7	16	8.8	15	50	1470	423	4.4	6.9
11	7.6	6.3	21	6.3	16	10	13	25	1380	192	4.4	6.9
12	6.0	6.3	19	6.9	17	11	12	22	1380	105	4.6	6.9
13	6.0	6.0	13	6.9	17	11	14	25	1530	136	4.6	6.6
14	6.0	6.3	16	6.6	17	11	16	33	1570	227	4.6	6.6
15	6.0	7.2	12	6.6	15	14	13	55	1990	230	3.9	6.3
16	6.0	16	11	6.6	14	172	13	60	2430	183	3.6	6.0
17	6.0	3.0	10	6.9	12	116	14	53	3030	86	3.2	6.0
18	6.0	5.2	9.8	7.2	12	66	13	50	3080	59	4.1	3.5
19	6.0	4.9	9.2	7.2	12	23	62	43	2860	57	4.1	3.2
20	6.0	35	3.5	9.8	10	23	62	36	1590	43	4.8	6.9
21	6.0	22	3.2	115	10	25	19	47	1430	17	6.0	4.6
22	4.8	19	7.2	36	9.8	23	10	64	2320	14	6.6	4.1
23	4.6	9.0	6.9	22	9.8	30	9.8	56	2400	13	6.6	4.1
24	4.6	6.8	6.6	19	9.5	22	9.8	59	1890	11	6.6	4.1
25	5.7	5.7	6.3	17	9.5	13	9.5	656	2010	9.8	6.3	4.1
26	6.6	5.1	5.7	18	9.5	15	9.5	1490	1700	9.2	6.3	4.1
27	6.3	4.7	4.8	24	9.5	19	13	1680	2440	3.8	6.6	4.6
28	6.9	20	3.8	35	9.2	30	11	1830	2240	3.2	6.6	4.6
29	7.6	45	3.8	120	-----	29	3.5	1680	2160	7.6	6.9	4.8
30	6.6	24	3.8	80	-----	26	3.8	1630	2300	7.2	6.9	4.8
31	6.3	-----	3.8	51	-----	24	-----	1450	-----	6.9	6.6	-----
Total	318.0	326.9	583.4	664.3	409.8	809.1	490.9	11351	50946	12929.7	166.5	180.9
Mean	10.3	10.9	18.8	21.4	14.6	26.1	16.4	366	1693	417	5.37	6.03
Max	34	45	65	120	23	172	62	1830	3080	2330	6.9	8.5
Min	4.6	4.7	3.8	3.8	9.2	7.6	3.5	10	74	6.9	3.2	4.1
Ac-ft	631	643	1160	1320	313	1600	974	22510	101000	25650	330	359

Cal yr 1966: Total 3,719.5 Mean 10.2 Max 65 Min 3.6 Ac-ft 7,380
Wtr yr 1967: Total 79,176.5 Mean 21.7 Max 3,080 Min 3.2 Ac-ft 157,000

SACRAMENTO RIVER BASIN

11-4155. BOWMAN LAKE NEAR GRANITEVILLE, CALIF.

LOCATION.--Lat 39°27'01", long 120°39'10", in SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.5, T.18 N., R.12 E., on rockfill portion of Bowman Dam on Canyon Creek, 4.5 miles east of Graniteville, and 8 miles south of Sierra City.

DRAINAGE AREA.--27.1 sq mi.

RECORDS AVAILABLE.--December 1926 to September 1967.

GAGE.--Graphic water-stage recorder. Prior to Oct. 8, 1964, staff gage at same site and datum. Datum of gage is at mean sea level (levels by Nevada Irrigation District).

EXTREMES.--Maximum contents during year, 66,400 acre-ft June 19 (elevation, 5,560.7 ft); no contents Oct. 1-20, lake drained for inspection and repair on the dam.

1926-67: Maximum contents, 71,000 acre-ft May 30, 1965 (elevation, 5,566.5 ft); minimum observed since reservoir first filled under normal operating conditions, 1,000 acre-ft Mar. 4, 1931.

REMARKS.--Lake is formed by one rockfill and one concrete-arch dam; storage began in November 1926. Total capacity, 68,200 acre-ft between elevations 5,400 (bottom of outlet tunnel) and 5,563 ft (crest of concrete-arch dam) above mean sea level. 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 through Milton-Bowman tunnel (see sta. no. 4080), and releases it through Bowman-Spaulding Canal (see sta. no. 4160), which conveys it to reservoirs of Pacific Gas and Electric Co. Water is eventually used for irrigation by Nevada Irrigation District. Lake completely drained for inspection and repair Nov. 25 to Dec. 9, 1949, Oct. 1-20, 1966.

COOPERATION.--One hundred fourteen staff gage readings furnished by Nevada Irrigation District.

Contents, in acre-feet, at 2400 hours, water-year, October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	3,850	20,700	37,800	37,800	34,800	41,400	34,500	60,000	65,500	57,900	58,800
2	0	4,380	21,800	38,000	38,000	34,600	41,400	34,400	60,400	65,300	57,900	58,800
3	0	4,720	23,000	38,200	37,900	34,400	41,200	34,300	60,700	65,200	57,900	58,000
4	0	5,100	24,000	38,600	37,800	34,300	41,000	33,700	61,000	65,200	57,800	58,000
5	0	5,430	24,900	38,900	37,800	34,100	40,900	33,500	61,700	65,000	57,600	58,100
6	0	5,790	26,300	39,100	37,700	33,900	40,800	33,400	62,800	65,000	57,500	58,100
7	0	6,000	27,500	38,900	37,600	33,700	40,600	33,600	63,700	65,200	57,400	58,200
8	0	6,330	28,200	38,600	37,600	33,500	40,300	34,000	64,700	65,100	57,400	58,200
9	0	6,600	28,800	38,300	37,400	33,300	40,000	34,600	65,300	65,100	57,300	58,200
10	0	6,900	29,200	38,000	37,300	33,100	39,700	35,500	65,500	65,000	57,200	58,200
11	0	7,170	29,900	37,600	37,300	32,900	39,500	35,200	65,600	64,800	57,200	58,200
12	0	7,470	30,600	37,300	37,200	33,100	39,300	35,100	65,600	64,700	57,100	58,300
13	0	7,740	31,000	37,000	37,100	33,200	39,000	35,000	65,800	64,500	57,100	58,300
14	0	8,040	31,600	36,600	37,100	33,000	38,800	35,100	65,600	64,400	57,000	58,300
15	0	8,460	31,900	36,300	37,100	33,100	38,600	35,600	65,600	64,100	57,000	58,400
16	0	9,360	32,200	36,100	37,000	35,500	38,200	36,500	65,600	63,900	57,000	58,400
17	0	9,960	32,600	35,800	37,000	37,800	38,000	37,900	65,900	63,600	57,200	58,400
18	0	10,400	33,000	35,500	36,800	39,200	38,000	39,300	66,100	63,400	57,200	58,400
19	0	11,000	33,400	35,200	36,700	39,900	38,000	40,800	66,400	63,000	57,300	58,500
20	0	12,600	34,000	34,900	36,500	40,300	37,800	42,400	66,200	62,700	57,300	58,500
21	460	13,300	34,400	34,600	36,400	40,500	37,500	43,200	66,100	62,300	57,400	58,500
22	830	13,800	34,700	35,200	36,200	40,800	37,000	45,100	66,100	62,000	57,400	58,600
23	1,140	14,200	35,200	35,200	35,900	41,000	36,900	47,200	66,000	61,600	57,500	58,600
24	1,380	14,500	35,500	35,000	35,800	41,300	36,700	49,000	66,000	61,200	57,600	58,600
25	1,530	14,900	35,800	34,900	35,600	41,300	36,400	50,900	66,000	60,800	57,600	58,700
26	1,780	15,200	36,100	34,700	35,400	41,400	36,000	52,800	65,900	60,300	57,700	58,700
27	2,130	15,500	36,400	34,600	35,200	41,400	35,800	54,300	65,700	59,900	57,700	58,800
28	2,400	17,000	36,700	34,600	35,000	41,500	35,400	55,800	65,600	59,500	57,800	58,800
29	2,740	18,300	36,900	35,000	-----	41,500	35,100	57,200	65,500	59,100	57,900	58,800
30	3,080	20,000	37,100	36,400	-----	41,400	34,800	58,200	65,500	58,700	57,900	58,900
31	3,460	-----	37,500	37,300	-----	41,400	-----	59,200	-----	58,200	58,000	-----
(+)	5,447.3	5,492.3	5,522.4	5,522.1	5,518.3	5,528.0	5,518.0	5,551.8	5,559.6	5,550.5	5,550.2	5,551.2
(+)	+2,560	+16,500	+17,500	-200	-2,300	+6,400	-6,500	+24,400	+6,300	-7,300	-200	+800
Max	3,460	20,000	37,500	39,100	38,000	41,500	41,400	59,200	66,400	65,500	58,000	58,800
Min	0	3,850	20,700	34,600	35,000	32,900	34,800	33,400	60,000	58,200	57,000	58,000

Calendar year 1966 † - 1,700

Max 55,200 Min 0

Water year 1966-67 † +57,900

Max 66,400 Min 0

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-feet.

11-4160. BOWMAN-SPAULDING CANAL INTAKE NEAR SIERRA CITY, CALIF.

LOCATION.--Lat 39°26'25", long 120°39'30", in NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.8, T.18 N., R.12 E., on left bank 0.6 mile downstream from Bowman Dam and 8 miles south of Sierra City.

RECORDS AVAILABLE.--October 1927 to September 1967. Prior to October 1962, published as Bowman-Spauldung Canal at intake.

GAGE.--Graphic water-stage recorder. Datum of gage is 5,390.39 ft above mean sea level. Prior to July 1965 at site 0.3 mile upstream at different datum.

AVERAGE DISCHARGE.--40 years, 147 cfs (106,400 acre-ft per year).

EXTREMES.--1927-67: Maximum daily discharge, 294 cfs Aug. 16, 1966; no flow at times in most years.

REMARKS.--Records good. Canal diverts from left bank at Canyon Creek below Bowman Lake. Water is diverted to Lake Spaulding and after passing through several powerhouses, is used for irrigation by Nevada Irrigation District.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	281	224	196	207	93	184	148	261	110	229	245	251
2	148	185	132	207	132	184	159	261	150	246	245	251
3	11	219	79	210	152	184	166	261	178	255	245	251
4	10	221	178	213	152	184	169	254	184	259	245	251
5	9.5	224	184	213	147	184	202	249	177	265	249	251
6	3.4	226	126	213	143	183	218	250	163	265	250	252
7	0	229	147	213	150	183	219	229	163	262	250	252
8	0	232	202	212	154	183	219	214	166	262	249	252
9	0	228	202	210	157	183	226	200	168	264	249	254
10	0	223	186	210	159	184	232	182	166	274	249	255
11	0	223	168	212	158	183	228	212	165	251	249	255
12	0	218	180	214	158	184	226	256	168	234	249	255
13	0	208	195	214	158	184	229	268	169	234	249	255
14	3.7	212	186	213	157	183	232	241	165	240	249	255
15	8.3	178	180	210	157	184	232	206	163	243	249	255
16	8.0	202	190	209	157	102	233	133	162	247	249	255
17	5.7	207	196	209	99	43	233	67	164	249	250	255
18	0	220	196	208	158	40	150	46	162	249	250	256
19	0	224	196	208	164	39	135	48	159	251	250	255
20	0	194	196	208	173	75	194	60	159	249	250	255
21	8.1	190	197	183	173	106	234	68	157	249	249	254
22	0	208	197	155	180	96	234	32	156	249	247	254
23	0	216	197	185	184	92	241	9.5	155	250	250	254
24	48	218	207	206	184	98	246	11	156	250	251	254
25	191	220	207	204	184	109	254	17	169	249	251	254
26	226	224	203	204	184	121	259	45	186	243	250	254
27	228	216	203	190	184	128	260	57	215	241	249	252
28	232	194	208	162	184	143	260	70	223	242	250	251
29	224	79	210	93	-----	148	260	90	223	241	251	254
30	224	190	212	45	-----	144	260	98	223	243	251	255
31	223	-----	208	41	-----	146	-----	110	-----	246	251	-----
Total	2092.7	6252	5764	5881	4435	4384	6558	4505.5	5123	7731	7720	7607
Mean	67.5	208	186	190	158	141	219	145	171	249	249	254
Max	281	232	212	214	184	184	260	269	221	274	251	256
Min	0	79	79	41	93	39	135	9.5	110	229	245	251
Ac-ft	4150	12400	11430	11660	8800	8700	13010	8940	10160	15330	15310	15090
Cal yr1966: Total	61416.3			Mean 174	Max 294	Min 0	Ac-ft 125800					
Wtr yr1967: Total	68053.2			Mean 186	Max 281	Min 0	Ac-ft 135000					

SACRAMENTO RIVER BASIN

11-4161. BOWMAN-SPAULDING CANAL AT JORDAN CREEK SIPHON VENTURI, NEAR EMIGRANT GAP, CALIF.

LOCATION.--Lat 39°20'32", long 120°38'26", in SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec.16, T.17 N., R.12 E., at outlet of Jordan Creek siphon 0.6 mile downstream from Fuller Lake and 3.5 miles northeast of Emigrant Gap.

RECORDS AVAILABLE.--October 1964 to September 1967.

GAGE.--Graphic water-stage recorder. Altitude of gage is 5,440 ft above mean sea level (from topographic map).

EXTREMES.--1964-67: Maximum daily discharge, 330 cfs Dec. 22, 1964; no flow at times in each year.

REMARKS.--Records excellent.

COOPERATION.--Water-stage recorder graph and seven discharge measurements furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	284	222	224	217	213	213	217	261	281	294	255	253
2	257	183	239	215	217	219	214	263	280	295	255	253
3	93	222	217	217	220	219	217	266	282	300	255	253
4	19	219	197	217	213	213	215	270	295	300	255	255
5	0	220	271	213	217	217	241	266	299	299	255	256
6	0	232	253	213	211	214	264	263	297	299	256	256
7	0	237	219	213	214	215	265	287	296	296	256	256
8	0	229	228	213	217	217	261	296	297	294	256	256
9	0	231	234	217	217	213	261	300	297	293	256	256
10	0	226	233	217	213	219	270	297	296	293	256	257
11	0	213	223	219	213	227	267	289	296	272	256	256
12	0	215	214	219	220	232	262	297	296	255	256	257
13	0	210	213	219	227	240	261	300	297	253	256	257
14	0	214	213	219	223	235	264	297	297	253	256	256
15	0	206	214	219	213	222	265	297	295	253	256	256
16	0	227	217	219	217	195	262	297	295	252	256	256
17	0	211	219	213	113	286	259	296	296	255	255	257
18	0	213	219	217	223	284	145	295	296	256	255	262
19	0	215	213	217	215	244	88	294	296	256	256	261
20	0	249	217	217	214	213	166	293	295	256	255	256
21	0	217	217	273	214	227	255	299	294	256	253	257
22	0	211	217	243	217	234	259	299	293	255	253	256
23	0	213	217	214	219	233	261	295	292	255	253	256
24	0	213	213	239	219	222	253	293	287	255	255	256
25	0	213	219	237	219	214	261	293	281	255	256	256
26	134	215	213	229	213	213	263	293	285	255	256	257
27	223	214	217	250	217	211	266	295	293	253	255	256
28	224	219	213	247	217	214	266	295	293	256	253	253
29	235	234	213	289	- - - - -	222	263	289	296	255	253	252
30	219	211	213	299	- - - - -	217	262	291	295	255	253	253
31	223	- - - - -	217	283	- - - - -	219	- - - - -	289	- - - - -	256	253	- - - - -
Total	1,911	6,564	6,896	7,153	6,005	6,983	7,273	8,960	8,793	8,330	7,905	7,677
Mean	61.6	219	222	231	214	225	243	289	293	269	255	256
Max	257	249	271	299	228	286	270	300	299	300	256	262
Min	0	183	197	215	113	195	83	261	280	252	253	252
Ac-ft	3,790	13,020	13,680	14,200	11,910	13,950	14,440	17,720	17,440	16,520	15,680	15,230

Cal yr 1966: Total 72,306 Mean 193 Max 292 Min 0 Ac-ft 143,200
Wtr yr 1967: Total 84,460 Mean 231 Max 300 Min 0 Ac-ft 167,500

11-4165. CANYON CREEK BELOW BOWMAN LAKE, CALIF.

LOCATION.--Lat 39°26'20", long 120°39'40", in SE $\frac{1}{4}$ sec.7, T.18 N., R.12 E., on left bank 1 mile downstream from Bowman Lake, 3 miles upstream from Texas Creek, and 9 miles south of Sierra City.

DRAINAGE AREA.--28.3 sq mi.

RECORDS AVAILABLE.--January 1927 to September 1967.

GAGE.--Graphic water-stage recorder and concrete control. Altitude of gage is 5,100 ft (from topographic map).

AVERAGE DISCHARGE.--40 years, 40.6 cfs (29,390 acre-ft per year).

EXTREMES.--Maximum discharge during year, 685 cfs June 18 (gage height, 4.00 ft); minimum daily, 1.6 cfs Nov. 4, 5.

1927-67: Maximum discharge, 2,600 cfs Dec. 25, 1964 (gage height, 6.25 ft); no flow at times.

REMARKS.--Records good. Flow regulated by French Lake (usable capacity, 13,840 acre-ft), by Bowman Lake (see sta. no. 4155), several smaller reservoirs, and diversion into Bowman-Spaulding Canal (see sta. no. 4160). Bowman Lake receives water from Middle Yuba River through Milton-Bowman tunnel (see sta. no. 4080).

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.1	2.5	12	4.4	6.5	4.8	4.0	2.9	6.9	369	4.1	4.0
2	5.2	2.0	12	4.4	5.6	4.8	4.0	3.8	6.3	333	4.1	4.0
3	6.9	1.7	9.3	4.4	5.4	4.8	4.0	4.6	6.1	297	4.1	4.1
4	4.8	1.6	6.3	4.4	5.4	4.4	4.0	5.6	6.9	261	4.1	4.1
5	5.1	1.6	11	4.4	5.8	4.3	3.8	6.3	3.9	99	4.1	4.1
6	11	2.1	12	4.4	5.6	4.4	3.8	9.7	7.0	5.1	4.1	4.1
7	13	2.0	5.8	4.3	5.6	4.4	3.8	9.3	14	4.9	4.1	4.1
8	12	2.0	5.8	4.3	5.4	4.4	4.1	10	127	4.8	4.1	4.1
9	12	2.1	5.6	4.3	5.4	4.6	4.4	11	317	4.8	4.1	4.1
10	12	2.0	6.9	4.1	5.6	4.8	4.3	9.3	385	4.8	3.3	4.1
11	12	1.8	5.6	4.1	5.6	7.9	4.1	6.7	401	4.6	3.3	4.0
12	11	1.8	5.6	4.3	6.1	9.1	4.1	6.9	441	4.6	3.3	3.8
13	11	1.7	6.0	4.3	6.1	17	4.4	7.9	505	4.4	3.3	3.8
14	6.2	2.2	6.0	4.4	5.6	12	4.4	9.5	469	4.4	3.3	3.8
15	2.6	4.0	5.6	4.4	5.1	7.2	3.6	11	469	4.4	3.3	3.8
16	3.0	9.1	5.4	4.4	4.9	4.4	3.3	12	501	4.4	3.2	3.6
17	4.3	3.6	5.2	4.4	4.8	13	4.6	12	553	4.4	2.9	4.0
18	7.0	2.7	5.2	4.3	4.9	7.4	5.2	10	617	4.4	2.9	4.0
19	9.8	5.5	5.2	4.3	4.8	6.0	3.3	11	665	4.3	2.7	3.8
20	9.7	13	5.1	8.5	4.6	5.8	3.2	12	625	4.3	2.7	3.6
21	3.0	4.6	4.9	5.7	4.6	6.7	3.2	12	605	4.3	4.0	3.6
22	1.7	3.5	4.9	1.9	4.6	6.1	3.2	11	573	4.3	4.4	3.6
23	2.0	3.0	4.9	7.4	4.6	7.8	3.2	9.8	525	4.3	4.3	3.6
24	4.1	2.9	4.9	7.6	4.6	5.8	3.2	9.9	477	4.3	4.4	3.6
25	4.1	2.7	4.8	6.3	4.6	5.2	3.0	7.9	469	4.3	4.6	3.6
26	3.6	2.5	4.6	7.4	4.4	4.9	3.0	7.8	469	4.3	4.4	3.6
27	3.2	2.5	4.6	9.1	4.4	4.6	3.2	7.2	445	4.1	4.3	3.6
28	2.2	15	4.6	11	4.6	4.6	3.0	6.7	409	4.1	4.3	3.6
29	2.5	12	4.6	28	- - - - -	4.3	3.0	6.5	397	4.1	4.1	3.6
30	2.7	6.3	4.4	13	- - - - -	4.4	2.7	6.1	385	4.1	4.1	3.6
31	2.6	- - - - -	4.4	7.9	- - - - -	4.9	- - - - -	6.7	- - - - -	4.1	4.0	- - - - -
Total	193.4	120.0	192.2	264.5	145.2	234.4	111.1	260.1	10,885.1	1,472.9	118.0	115.0
Mean	6.24	4.00	6.20	8.53	5.19	7.56	3.70	9.39	363	47.5	3.81	3.83
Max	13	15	12	57	6.5	44	5.2	12	665	369	4.6	4.1
Min	1.7	1.6	4.4	4.1	4.4	4.3	2.7	2.9	6.1	4.1	2.7	3.6
Ac-ft	384	233	381	525	288	465	220	516	21,590	2,920	234	228
Cal yr 1966: Total	1,582.3	Mean	4.34	Max	15	Min	1.6	Ac-ft	3,140			
Wtr yr 1967: Total	14,111.9	Mean	38.7	Max	665	Min	1.6	Ac-ft	27,990			

SACRAMENTO RIVER BASIN

11-4170. SOUTH YUBA RIVER NEAR WASHINGTON, CALIF.

LOCATION.--Lat 39°21'38", long 120°46'14", on line between secs.5 and 8, T.17 N., R.11 E., on left bank 800 ft upstream from unnamed tributary and 1.5 miles east of Washington.

DRAINAGE AREA.--198 sq mi.

RECORDS AVAILABLE.--March 1942 to September 1953, October 1956 to September 1967. Prior to October 1949, published as South Fork Yuba River near Washington.

GAGE.--Graphic water-stage recorder. Altitude of gage is 2,735 ft (from river-profile map). Mar. 14, 1942, to Sept. 30, 1945, at site 150 ft upstream at present datum, Oct. 1, 1945, to July 14, 1949, on right bank 50 ft downstream at present datum, July 15, 1949, to Sept. 30, 1953, on right bank 0.8 mile upstream at different datum, Oct. 1, 1956, to Apr. 24, 1963, at site 50 ft downstream at present datum, Apr. 25, 1963, to Feb. 26, 1965, digital water-stage recorder at site 50 ft downstream at present datum.

AVERAGE DISCHARGE.--22 years, 301 cfs (217,900 acre-ft per year).

EXTREMES.--Maximum discharge during year, 4,070 cfs June 19 (gage height, 7.77 ft); minimum daily, 19 cfs Oct. 23-25.

1942-53, 1956-67: Maximum discharge, 35,300 cfs Dec. 23, 1964 (gage height, 20.0 ft, from floodmarks), from rating curve extended above 6,500 cfs on basis of slope-area measurement at gage height 16.60 ft, in gage well, 17.8 ft, from floodmarks; minimum, 9.1 cfs Oct. 18, 1950.

Flood of Dec. 23, 1955, reached a stage of 17.8 ft, from floodmarks (discharge, 26,300 cfs).

REMARKS.--Records good. Natural flow affected by Lake Spaulding beginning in 1912 (see sta. no. 4141.4), Bowman Lake (see sta. no. 4155), Fordyce Lake beginning in 1926 (capacity, 46,700 acre-ft), diversions into and out of basin for several powerhouses and for irrigation of about 20,000 acres by Nevada Irrigation District.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	21	20	333	53	493	87	185	142	1,040	2,760	26	24
2	21	20	322	52	344	87	181	165	295	2,540	26	24
3	23	20	589	50	272	87	173	192	407	2,260	26	24
4	23	20	290	52	233	82	176	238	456	1,780	26	25
5	24	20	339	54	224	73	176	244	920	1,160	25	26
6	50	33	817	50	203	76	203	288	1,560	1,280	24	25
7	58	36	473	50	201	75	226	398	1,980	851	24	25
8	56	28	293	49	190	76	218	504	1,900	292	24	25
9	51	24	220	48	176	77	224	550	2,200	633	24	24
10	52	23	250	43	178	86	230	554	2,210	511	23	24
11	34	24	208	48	172	122	210	350	2,160	252	23	25
12	29	23	170	49	131	111	194	298	2,220	158	23	24
13	23	23	160	49	137	107	201	285	2,440	163	23	24
14	27	25	160	50	173	103	218	368	2,410	288	23	23
15	25	50	130	50	146	123	203	484	2,730	260	22	23
16	26	211	121	50	133	2,090	181	582	3,090	226	23	22
17	27	73	112	50	125	1,440	196	529	3,550	137	22	23
18	26	54	106	43	122	728	196	571	3,760	92	21	33
19	23	52	101	47	115	462	224	563	3,710	88	21	26
20	23	461	93	129	106	374	230	714	2,730	33	22	25
21	24	256	92	1,460	101	365	179	913	2,280	51	22	22
22	23	180	85	572	93	359	172	813	3,420	47	25	22
23	19	85	79	273	96	434	156	713	3,090	45	25	22
24	19	71	74	240	93	341	167	669	2,630	42	25	22
25	19	59	70	194	94	275	165	1,010	2,680	39	25	22
26	20	54	63	212	90	242	153	2,190	3,070	37	25	22
27	20	50	63	326	87	220	179	2,270	3,000	30	25	22
28	20	211	61	495	86	230	153	2,320	2,760	30	25	22
29	20	567	59	1,560	---	220	145	2,100	2,680	29	25	22
30	20	213	58	1,040	---	206	140	2,050	2,790	28	24	22
31	20	---	55	353	---	197	---	1,930	---	28	24	---
Total	981	2,396	7,166	8,411	4,739	9,560	5,674	25,007	70,069	16,210	741	714
Mean	23.4	99.9	231	271	169	308	139	807	2,336	523	23.9	23.8
Max	53	567	339	1,660	493	2,090	230	2,320	3,760	2,760	26	33
Min	19	20	55	47	86	75	140	142	295	23	21	22
Ac-ft	1,750	5,940	14,210	16,580	9,400	18,360	11,350	49,600	139,000	32,150	1,470	1,420

Cal yr 1966: Total 31,495 Mean 86.3 Max 339 Min 19 Ac-ft 62,470
Wtr yr 1967: Total 152,167 Mean 417 Max 3,760 Min 19 Ac-ft 301,300

SACRAMENTO RIVER BASIN

899

11-4171. POORMAN CREEK NEAR WASHINGTON, CALIF.

LOCATION.--Lat 39°21'36", long 120°48'24", in SW $\frac{1}{4}$ sec.1, T.17 N., R.10 E., on left bank just downstream from U.S. Forest Service road bridge, 0.4 mile west of Washington, and 1.4 miles downstream from Deadman Creek.

DRAINAGE AREA.--23.1 sq mi.

RECORDS AVAILABLE.--July 1961 to September 1967.

GAGE.--Digital water-stage recorder. Altitude of gage is 2,600 ft (from topographic map). Prior to Apr. 24, 1963, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--6 years, 65.6 cfs (47,490 acre-ft per year).

EXTREMES.--Maximum discharge during year, 1,080 cfs Mar. 16 (gage height, 6.64 ft); minimum daily, 8.4 cfs Oct. 10, 11.

1961-67: Maximum discharge, 6,090 cfs Dec. 22, 1964 (gage heights, 12.52 ft, in gage well, 13.5 ft, from floodmarks), from rating curve extended above 1,700 cfs on basis of slope-area measurement at 10.65 ft; minimum, 5.9 cfs Oct. 4, 1961.

REMARKS.--Records good. No known diversion or storage above station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	8.5	8.6	126	29	278	58	127	96	160	64	21	14
2	8.7	8.6	270	28	210	57	122	104	143	59	20	14
3	8.7	8.6	202	28	179	58	122	110	139	55	20	14
4	8.5	8.6	116	27	156	54	125	123	151	52	20	14
5	8.5	8.6	302	28	143	51	125	133	185	47	20	14
6	8.6	15	303	26	133	50	137	136	176	45	19	14
7	8.6	12	178	25	126	50	143	165	176	42	19	13
8	8.6	11	127	25	118	51	139	190	172	41	19	13
9	8.5	10	99	25	110	53	139	199	167	40	18	13
10	8.4	10	105	24	107	58	139	216	164	39	18	13
11	8.4	11	91	24	104	67	130	174	160	37	18	13
12	8.5	11	77	24	105	67	125	160	173	36	18	13
13	8.7	11	73	24	106	64	126	154	176	34	17	12
14	8.7	12	71	25	101	63	129	161	165	33	17	12
15	8.8	26	62	25	92	75	123	185	161	32	17	12
16	8.8	62	58	25	87	750	115	214	167	32	17	12
17	8.7	29	54	23	82	530	118	232	165	31	16	13
18	8.7	19	51	23	79	342	120	232	169	30	16	18
19	8.7	23	48	22	76	258	118	238	161	28	16	14
20	8.7	145	46	43	72	222	110	262	148	28	16	12
21	8.8	84	44	509	68	214	108	288	140	27	16	12
22	8.9	58	42	228	66	206	104	285	129	26	15	12
23	8.9	31	40	123	64	226	106	275	118	26	15	12
24	8.7	24	38	106	63	197	110	265	110	25	15	12
25	8.7	21	37	87	63	179	108	244	102	24	15	12
26	8.8	19	35	99	58	165	104	232	95	24	15	12
27	8.9	18	34	153	57	151	107	222	88	24	15	12
28	8.9	60	33	252	57	146	102	210	82	23	15	12
29	8.9	138	32	682	-----	140	98	197	76	23	14	12
30	8.6	54	31	481	-----	136	95	187	70	22	14	12
31	8.6	-----	30	436	-----	132	-----	179	-----	22	14	-----
TOTAL	269.0	957.0	2,855	3,679	2,960	4,870	3,574	6,068	4,288	1,071	525	387
MEAN	8.68	31.9	92.1	119	106	157	119	196	143	34.5	16.9	12.9
MAX	8.9	145	303	682	278	750	143	288	185	64	21	18
MIN	8.4	8.6	30	22	57	50	95	96	70	22	14	12
AC-FT	534	1,900	5,660	7,300	5,870	9,660	7,090	12,040	8,510	2,120	1,040	768

CAL YR 1966: TOTAL 15,052.6 MEAN 41.2 MAX 303 MIN 7.9 AC-FT 29,860
WAT YR 1967: TOTAL 31,503.0 MEAN 86.3 MAX 750 MIN 8.4 AC-FT 62,490

Peak discharge (base, 500 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-2	2115	5.44	509	1-29	0800	6.39	965
1-21	1615	5.82	734	3-16	1815	6.64	1,080

SACRAMENTO RIVER BASIN

11-4175. SOUTH YUBA RIVER AT JONES BAR, NEAR GRASS VALLEY, CALIF.

LOCATION.--Lat 39°17'32", Long 121°06'13", near center of sec.32, T.17 N., R.8 E., on left bank at Jones Bar, 100 ft upstream from Rush Creek, 0.9 mile downstream from bridge on State Highway 49, and 5 miles northwest of Grass Valley.

DRAINAGE AREA.--308 sq mi.

RECORDS AVAILABLE.--October 1940 to September 1948, April 1959 to September 1967. Published as South Fork Yuba River at Jones Bar 1940-48 and as South Yuba River "at Jones Bar" 1959-63.

GAGE.--Graphic water-stage recorder. Altitude of gage is 1,060 ft (from river-profile map). Oct. 1, 1940, to Sept. 30, 1948, graphic water-stage recorder at site 150 ft upstream at datum 2.00 ft higher.

AVERAGE DISCHARGE.--16 years, 486 cfs (351,800 acre-ft per year).

EXTREMES.--Maximum discharge during year, 9,810 cfs Jan. 21 (gage height, 13.64 ft); minimum daily, 14 cfs Oct. 1, 2.
1940-48, 1959-67: Maximum discharge, 53,600 cfs Dec. 22, 1964 (gage height, 25.0 ft, from floodmarks), from rating curve extended above 23,000 cfs on basis of slope-area measurement of maximum flow; minimum, 1.0 cfs Sept. 10-13, 1944.
Flood of Dec. 23, 1955, reached a stage of 28.7 ft, from floodmarks (at site 100 ft upstream and datum 2.00 ft lower).

REMARKS.--Records good except those for period of no gage-height record, which are fair. Flow regulated by Lake Spaulding (see sta. no. 4140.4), Fordyce Lake (capacity, 46,700 acre-ft), Bowman Lake (see sta. no. 4155), and many smaller reservoirs. Diversions into and out of basin for several powerhouses, and for irrigation of about 20,000 acres by the Nevada Irrigation District. Records of water temperatures and suspended-sediment loads for the water year 1967 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	14	20	598	127	2020	248	678	606	1550	4200	80	52
2	14	19	2180	124	1410	244	654	600	450	3850	78	51
3	16	20	1830	120	1090	244	650	572	620	3350	75	51
4	17	20	833	117	910	238	646	642	710	2550	74	52
5	17	19	2540	126	797	223	678	714	1350	1800	72	55
6	18	53	2190	118	710	217	1060	734	2400	1920	70	52
7	54	96	1340	115	650	214	1120	869	3000	1200	70	50
8	61	50	851	112	578	214	896	1020	2950	470	70	50
9	59	43	600	110	550	214	829	882	3400	950	69	50
10	61	42	579	108	516	223	815	1040	3400	638	69	50
11	51	42	544	107	502	415	820	985	3300	400	66	50
12	36	43	425	103	483	559	726	869	3500	244	66	50
13	33	44	368	108	490	512	698	802	3650	250	64	50
14	31	50	372	106	487	424	726	810	3700	440	62	51
15	31	120	329	107	436	487	722	842	4250	385	62	55
16	28	472	292	107	403	4980	654	1080	4750	345	60	55
17	30	159	272	106	382	3710	765	1160	5500	209	60	54
18	30	117	252	103	368	1920	874	970	5700	184	58	68
19	30	142	238	101	355	1430	828	1000	5700	171	57	67
20	32	1100	224	494	325	1150	802	1100	5500	163	57	55
21	30	849	213	5790	308	1050	730	1240	3600	142	55	52
22	29	631	199	2860	295	1000	662	1240	5100	117	54	50
23	29	256	186	1090	286	1180	730	1090	4550	112	56	50
24	27	163	176	955	281	1020	802	1050	4050	107	56	51
25	19	133	169	792	292	860	730	1550	4250	104	55	50
26	19	115	163	815	274	766	678	3350	4600	101	56	50
27	22	106	152	1040	259	690	710	3450	4500	96	57	48
28	22	215	146	1560	252	678	662	3580	4150	91	54	48
29	22	1190	139	4450	---	674	622	3350	4100	87	53	47
30	22	497	138	3150	---	654	575	3100	4250	86	52	47
31	22	---	131	3650	---	726	---	2950	---	83	53	---
Total	924	6826	18667	28776	15708	27164	22541	43247	108530	24845	1940	1561
Mean	29.8	228	602	928	561	876	751	1395	3618	801	62.6	52.0
Max	61	1190	2540	5790	2020	4980	1120	3580	5700	4200	80	68
Min	14	19	131	101	252	214	575	572	450	83	52	47
Ac-ft	1830	13540	37030	57080	31160	53880	44710	85780	215300	49280	3850	3100

Cal yr 1966: Total 75,541 Mean 207 Max 2,540 Min 12 Ac-ft 149,800
Wtr yr 1967: Total 300,729 Mean 824 Max 5,790 Min 14 Ac-ft 596,500

Note.--No gage-height record May 18 to July 17.

11-4180. YUBA RIVER AT ENGLEBRIGHT DAM, CALIF.

LOCATION.--Lat 39°14'22", long 121°16'00", in SW¼SE¼ sec.14, T.16 N., R.6 E., on left bank upstream from spillway of Englebright Dam, 1 mile upstream from Deer Creek, and 2.5 miles northeast of Smartville.

DRAINAGE AREA.--1,108 sq mi.

RECORDS AVAILABLE.--October 1941 to September 1967. Prior to October 1953, published as "at Narrows Dam." If record for Deer Creek near Smartville since 1941 is added to record at this site, a record equivalent to that published from 1903 to 1941 as Yuba River at Smartville can be obtained.

GAGE.--Graphic water-stage recorder, flowmeter in penstock and watt meters in powerhouse just below dam. Datum of gage is at mean sea level (levels by Corps of Engineers). Prior to Sept. 19, 1958, at datum 526.99 ft higher.

AVERAGE DISCHARGE.--26 years, 2,550 cfs (1,846,000 acre-ft per year).

EXTREMES.--Maximum discharge during year, 43,700 cfs Jan. 21, including flow through powerplant; minimum daily, 245 cfs Nov. 12, 13.

1941-67: Maximum discharge, 171,000 cfs Dec. 22, 1964 (gage height, 546.14 ft), no flow through powerplant, from rating curve extended above 25,000 cfs 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.

REMARKS.--Records good. Diversions for power and irrigation above station. Up to 250 cfs can bypass station and up to 670 cfs can be diverted into Bear River basin. Flow regulated by Lake Spaulding beginning in 1912 (see sta. no. 4141.4), Jackson Meadows Reservoir (see sta. no. 4078) since November 1964, Englebright Reservoir beginning in 1941 (capacity, 70,000 acre-ft), Bowman Lake (see sta. no. 4155), Fordyce Lake beginning in 1926 (capacity, 46,700 acre-ft), and many smaller reservoirs. Records given herein show total flow over Englebright Dam spillway and through and past powerplant.

COOPERATION.--Records of flow through powerplant furnished by Pacific Gas and Electric Co.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	300	350	3,530	949	12,800	1,640	4,280	2,920	8,100	7,180	808	1,030
2	300	350	8,020	943	8,260	1,640	3,800	2,920	6,040	6,680	789	1,020
3	300	350	11,500	926	6,490	1,630	3,590	3,060	5,280	6,220	796	955
4	305	350	5,010	926	5,360	1,610	3,530	3,340	5,360	5,000	783	947
5	330	250	11,000	849	4,580	1,540	3,660	3,960	6,300	3,980	777	729
6	350	260	10,400	887	4,200	1,480	5,140	4,000	7,460	3,540	771	729
7	350	260	7,240	849	3,810	1,460	5,900	4,540	7,900	3,400	765	724
8	350	250	4,900	846	3,540	1,450	4,780	5,860	7,900	2,460	742	719
9	350	250	3,540	841	3,310	1,450	4,340	7,170	8,340	2,340	719	715
10	360	250	3,120	833	3,120	1,520	4,280	7,980	8,500	2,380	703	708
11	355	250	2,950	865	3,030	2,180	4,340	6,490	8,460	2,060	901	708
12	330	245	2,560	844	2,950	2,620	3,780	5,500	8,460	1,850	1,230	692
13	350	245	2,270	844	3,120	3,040	3,560	4,930	10,200	1,700	1,230	686
14	350	290	2,240	836	3,200	2,570	3,600	4,820	8,780	1,690	1,210	686
15	345	430	2,060	833	2,920	2,250	3,660	5,540	9,080	1,690	1,210	635
16	350	265	1,870	833	2,660	16,300	3,500	7,200	9,840	1,620	1,190	634
17	350	430	1,750	833	2,660	23,100	3,540	8,450	10,700	1,540	1,150	450
18	345	600	1,660	849	2,660	12,900	4,520	8,990	11,300	1,390	1,150	450
19	345	590	1,580	849	2,660	9,470	4,100	8,900	11,700	1,280	1,150	418
20	350	575	1,510	1,370	2,410	7,540	3,840	9,610	10,700	1,200	1,130	472
21	350	490	1,460	18,400	2,180	7,020	3,570	10,700	9,300	1,140	1,130	465
22	350	615	1,380	19,600	1,970	6,820	3,370	11,500	9,980	1,080	1,130	393
23	350	600	1,330	6,370	1,970	7,590	3,480	11,500	9,400	1,030	1,120	393
24	350	605	1,270	4,860	1,970	7,440	4,130	11,500	8,100	1,000	1,120	555
25	350	425	1,190	4,610	1,970	6,180	3,780	11,300	7,900	973	1,120	410
26	345	660	1,160	4,420	1,960	5,430	3,570	11,600	8,500	945	1,100	404
27	350	660	1,100	5,480	1,760	4,820	3,600	11,500	8,180	912	1,090	393
28	350	660	1,040	7,730	1,650	4,480	3,480	11,300	7,700	882	1,080	393
29	350	4,670	1,000	23,900	- - - -	4,380	3,160	10,200	7,440	865	1,060	393
30	350	4,880	1,020	19,600	- - - -	4,090	3,060	9,620	7,320	849	1,050	480
31	350	- - - -	993	20,900	- - - -	4,510	- - - -	9,080	- - - -	824	1,050	- - - -
Total	10,610	21,105	101,653	153,675	99,170	160,250	116,940	235,980	254,220	69,705	31,253	18,386
Mean	342	704	3,279	4,957	3,542	5,169	3,898	7,612	8,474	2,249	1,008	613
Max	360	4,880	11,500	23,900	12,800	23,100	5,900	11,600	11,700	7,180	1,230	1,030
Min	300	245	993	833	1,650	1,450	3,060	2,920	5,280	824	703	393
Ac-ft	21,040	41,860	201,600	304,800	196,700	317,300	231,900	468,100	504,200	138,300	61,990	36,470

Cal yr 1966: Total 549,709 Mean 1,506 Max 11,500 Min 245 Ac-ft 1,090,000
Wtr yr 1967: Total 1,272,947 Mean 3,488 Max 23,900 Min 245 Ac-ft 2,525,000

Peak discharge (base, 13,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-3	0300	----	17,000	1-29	1500	----	33,100
12-5	1700	----	14,000	3-16	2400	----	31,500
1-21	2300	----	43,700				

SACRAMENTO RIVER BASIN

11-4185. DEER CREEK NEAR SMARTVILLE, CALIF.

LOCATION.--Lat 39°13'28", long 121°16'03", in SW¼SE¼ sec.23, T.16 N., R.6 E., on left bank 400 ft upstream from county road bridge, 0.9 mile upstream from mouth, and 2 miles northeast of Smartville.

DRAINAGE AREA.--84.6 sq mi.

RECORDS AVAILABLE.--June 1935 to September 1967.

GAGE.--Graphic water-stage recorder. Altitude of gage is 630 ft (from river-profile map). June 21, 1935, to Nov. 30, 1938, staff gage at same site and datum.

AVERAGE DISCHARGE.--32 years, 133 cfs (96,290 acre-ft per year).

EXTREMES.--Maximum discharge during year, 7,810 cfs Jan. 21 (gage height, 11.53 ft); minimum daily, 7.4 cfs Sept. 22.
1935-67: Maximum discharge, 11,600 cfs Oct. 13, 1962 (gage height, 13.77 ft), from rating curve extended above 5,200 cfs; minimum, 0.1 cfs Aug. 4-6, 15, 1940.

REMARKS.--Records good. Natural flow of stream is affected by Scotts Flat Reservoir beginning in 1949 (usable capacity, 26,300 acre-ft, increased to 49,000 acre-ft in July 1964), Deer Creek Reservoir (capacity, 1,400 acre-ft), 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. Records of chemical analyses for the water year 1967 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.3	16	733	30	556	141	489	247	135	11	9.5	10
2	11	19	1,740	29	333	144	332	230	104	11	9.5	10
3	11	21	681	29	252	146	288	225	84	11	12	10
4	12	16	425	30	206	154	254	230	74	9.5	13	10
5	12	13	1,190	33	176	135	285	238	76	9.5	13	10
6	11	102	872	30	143	110	1,090	247	86	9.5	14	11
7	10	83	324	28	126	101	681	243	84	10	14	11
8	9.9	32	174	26	113	100	387	254	78	9.1	14	11
9	3.9	23	119	26	101	94	322	278	61	9.5	13	11
10	3.6	24	117	26	91	97	352	396	54	9.9	14	12
11	3.6	19	91	26	89	302	513	390	53	16	13	12
12	11	17	76	26	84	732	340	373	56	19	13	12
13	9.9	16	71	26	78	714	266	332	84	14	13	12
14	9.2	13	65	26	81	468	263	301	59	13	13	12
15	9.6	126	57	25	82	332	311	285	58	20	12	11
16	9.9	315	53	26	85	2,060	280	278	52	29	11	11
17	11	62	50	25	73	1,160	485	253	48	24	11	11
18	11	33	43	26	66	642	660	230	45	9.9	12	18
19	10	123	46	26	63	454	482	206	43	9.5	13	13
20	11	1,070	44	622	59	393	396	178	39	9.1	11	9.9
21	11	514	42	3,970	57	352	327	153	37	8.8	26	8.8
22	9.9	329	41	1,690	55	319	290	143	28	8.4	13	7.4
23	3.9	73	39	367	53	454	363	126	26	8.8	10	9.1
24	9.2	51	33	438	56	369	482	102	19	9.5	12	9.9
25	9.9	41	37	370	76	314	352	95	19	8.8	14	9.5
26	11	35	36	477	61	278	301	92	19	8.4	13	8.8
27	11	32	34	481	74	266	352	84	19	9.1	13	8.4
28	11	156	33	863	119	283	311	74	16	8.8	13	10
29	11	716	32	1,780	- - - - -	283	280	74	14	8.8	13	10
30	12	135	32	989	- - - - -	314	283	61	13	9.1	13	9.9
31	13	- - - - -	30	1,880	- - - - -	590	- - - - -	59	- - - - -	9.1	11	- - - - -
Total	321.8	4,245	7,375	14,451	3,418	12,306	11,316	6,492	1,583	361.1	399.0	319.7
Mean	10.4	142	238	466	122	397	394	209	52.8	11.6	12.9	10.7
Max	13	1,070	1,740	3,970	556	2,060	1,090	396	135	29	26	18
Min	3.3	13	30	25	53	94	254	59	13	8.4	9.5	7.4
Ac-ft	633	8,420	14,630	28,660	6,780	24,410	23,440	12,880	3,140	716	791	634

Cal yr 1966: Total 24,576.3 Mean 67.3 Max 1,740 Min 6.9 Ac-ft 48,750
Wtr yr 1967: Total 63,087.6 Mean 173 Max 3,970 Min 7.4 Ac-ft 125,100

SACRAMENTO RIVER BASIN

903

11-4207. DRY CREEK NEAR BROWNS VALLEY, CALIF.

LOCATION.--Lat 39°15'25", long 121°20'35", in NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.7, T.16 N., R.6 E., on left bank 500 ft upstream from diversion dam and 3.6 miles east of Browns Valley.

DRAINAGE AREA.--87.1 sq mi.

RECORDS AVAILABLE.--July 1964 to September 1967.

GAGE.--Digital water-stage recorder. Altitude of gage is 265 ft (from topographic map). Prior to Apr. 6, 1965, graphic water-stage recorder at same site and datum.

EXTREMES.--Maximum discharge during year, 3,350 cfs Jan. 29 (gage height, 8.63 ft); minimum daily, 2.4 cfs Jan. 16-19.
1964-67: Maximum discharge, 4,810 cfs Jan. 5, 1965 (gage height, 9.65 ft); minimum daily, 1.2 cfs Dec. 12-15, 1964.

REMARKS.--Records good. Flow regulated by Lake Mildred (capacity, 1,500 acre-ft), Merle Collins Reservoir (capacity, 57,000 acre-ft) since 1963. Some diversion above station for irrigation.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	4.4	5.2	.69	2.8	1,160	57	533	231	15	11	7.0	7.1
2	5.0	4.8	196	2.8	550	54	358	202	12	10	6.9	6.8
3	5.0	4.3	98	2.7	367	49	290	186	11	8.9	6.2	6.8
4	4.9	4.1	95	2.8	286	50	252	170	11	9.2	6.2	6.8
5	4.7	4.0	242	2.9	235	44	272	152	11	12	6.7	6.9
6	4.8	16	186	2.8	192	43	1,540	140	12	11	7.0	7.2
7	4.6	8.1	65	2.8	168	42	1,130	126	13	11	6.7	7.2
8	4.6	4.3	35	2.7	148	41	568	115	14	9.7	6.2	7.1
9	4.7	3.8	23	2.6	130	39	384	106	12	7.9	6.2	6.8
10	4.7	3.4	15	2.6	118	38	361	150	12	8.1	6.3	7.2
11	5.3	3.2	11	2.6	107	186	528	152	11	8.1	6.4	7.2
12	5.3	3.1	10	2.6	101	356	431	136	15	7.7	6.5	6.6
13	4.8	2.8	8.8	2.6	95	612	324	114	16	8.2	6.5	6.2
14	4.1	3.0	7.2	2.6	92	487	290	94	12	7.1	7.4	6.0
15	4.0	7.6	6.5	2.5	83	311	293	75	7.8	6.9	6.9	5.9
16	4.1	11	6.0	2.4	79	1,360	267	56	7.1	6.9	7.5	6.7
17	3.9	4.5	5.4	2.4	76	986	324	30	7.3	7.1	7.0	6.4
18	4.3	3.4	5.0	2.4	70	440	736	15	7.0	7.0	6.9	6.3
19	4.8	14	4.7	2.4	70	299	552	7.8	7.3	6.5	6.9	6.1
20	4.5	64	4.5	55	59	237	522	7.4	7.8	6.1	6.9	5.9
21	4.4	44	4.2	645	55	212	401	6.5	7.7	7.2	6.8	5.8
22	4.3	50	3.9	302	55	180	339	7.2	8.0	7.2	6.6	5.9
23	4.3	10	3.8	71	54	255	353	7.2	7.5	7.6	6.5	6.3
24	4.3	6.0	3.6	64	57	252	628	7.0	7.0	7.9	6.6	7.1
25	4.2	4.6	3.5	46	85	184	505	7.6	7.5	7.4	6.8	7.6
26	4.5	4.1	3.4	64	86	154	355	7.6	12	7.6	7.0	6.7
27	6.6	3.8	3.2	290	71	136	349	7.6	12	7.6	6.6	6.5
28	11	11	3.1	1,190	60	128	316	7.2	12	7.3	6.8	6.7
29	8.6	71	3.1	2,380	-----	158	270	8.5	11	7.9	6.6	6.9
30	5.5	23	3.0	1,510	-----	192	247	7.8	10	7.3	6.7	6.2
31	5.4	-----	3.0	2,480	-----	490	-----	8.1	-----	6.6	6.6	-----
TOTAL	155.6	402.1	1,130.9	9,147.0	4,709	8,072	13,718	2,347.5	316.0	252.0	207.9	198.9
MEAN	5.02	13.4	36.5	295	168	260	457	75.7	10.5	8.13	6.71	6.63
MAX	11	71	242	2,480	1,160	1,360	1,540	231	16	12	7.5	7.6
MIN	3.9	2.8	3.0	2.4	54	38	247	6.5	7.0	6.1	6.2	5.8
AC-FT	309	798	2,240	18,140	9,340	16,010	27,210	4,660	627	500	412	395

CAL YR 1966: TOTAL 10,915.3 MEAN 29.9 MAX 440 MIN 1.8 AC-FT 21,650
WAT YR 1967: TOTAL 40,656.9 MEAN 111 MAX 2,480 MIN 2.4 AC-FT 80,640

SACRAMENTO RIVER BASIN

11-4210. YUBA RIVER NEAR MARYSVILLE, CALIF.

LOCATION.--Lat 39°10'35", long 121°31'25", in New Helvetia Grant, on left bank 4.2 miles northeast of Marysville and 5 miles downstream from Dry Creek.

DRAINAGE AREA.--1,339 sq mi.

RECORDS AVAILABLE.--October 1940 to September 1967 (1940-43, 1945, low-water periods only). Published as "at Marysville" October 1940 to September 1957. Records published for two sites August 1954 to September 1955. Yearly discharge for the 1945 water year published in WSP 1315-A.

GAGE.--Graphic water-stage recorder. Gage is set to datum of Corps of Engineers, which is 2.95 ft below mean sea level. Prior to August 1954 and Oct. 1, 1956, to Sept. 30, 1957, at Simpson Lane Bridge in Marysville 4.2 miles downstream at same datum. Since Sept. 3, 1963, auxiliary graphic water-stage recorder at Simpson Lane Bridge in Marysville 4.2 miles downstream at same datum.

AVERAGE DISCHARGE.--24 years (1943-67), 2,564 cfs (1,856,000 acre-ft per year).

EXTREMES.--Maximum discharge during year, 52,300 cfs Jan. 22 (gage height, 76.87 ft); minimum daily, 76 cfs Oct. 19, Nov. 13.

1943-67: Maximum discharge, 180,000 cfs Dec. 22, 1964 (gage height, 90.15 ft, from floodmarks), from rating curve extended above 91,000 cfs on basis of Corps of Engineers flood routing study.

1940-67: Minimum discharge recorded, 10 cfs July 2, 1959.

REMARKS.--Records good. Flow regulated by several reservoirs above station. Many diversions above station for power. Diversions for irrigation of about 13,000 acres between stations at Englebright Dam and near Marysville. Records of water temperatures near this gaging station for the water year 1967 are published in Part 2 of this report.

REVISIONS (water year).--1965 report: 1960.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	92	143	4,410	879	16,400	1,880	6,100	3,600	8,100	7,410	304	692
2	95	147	8,590	852	10,200	1,880	5,120	3,300	6,150	6,990	274	684
3	95	147	13,000	825	7,850	1,910	4,660	3,810	5,330	6,650	274	652
4	99	133	6,450	897	6,520	1,860	4,460	4,020	5,280	5,640	280	628
5	99	64	10,000	951	5,620	1,800	4,500	4,570	5,930	4,610	286	596
6	156	143	10,000	1,000	5,160	1,700	7,380	4,750	6,940	3,930	274	449
7	147	352	8,870	960	4,660	1,690	8,410	5,020	7,540	3,820	274	449
8	125	165	6,000	942	4,350	1,690	6,440	6,150	7,670	2,710	262	442
9	118	110	4,500	924	4,020	1,690	5,690	7,200	7,878	2,230	250	449
10	110	95	3,720	915	3,740	1,700	5,500	8,030	8,030	2,350	239	456
11	106	88	3,520	910	3,600	2,620	6,100	7,200	8,030	2,000	273	484
12	106	82	2,940	905	3,540	3,650	5,100	6,030	7,900	1,660	692	498
13	114	76	2,550	900	3,640	5,160	4,700	5,430	9,390	1,440	732	498
14	110	79	2,420	895	3,720	4,550	4,600	5,190	8,610	1,330	740	505
15	99	276	2,240	890	3,460	3,480	4,900	5,670	8,440	1,350	740	456
16	92	676	2,020	885	3,180	13,200	4,500	6,960	9,000	1,300	716	428
17	88	548	1,840	880	2,880	26,100	4,600	7,950	9,870	1,220	636	280
18	79	484	1,670	875	2,880	14,000	6,700	8,440	10,500	1,030	716	274
19	76	498	1,590	870	2,840	10,900	6,000	8,380	11,000	924	732	292
20	85	1,460	1,500	1,190	2,670	8,610	5,500	8,720	10,600	825	732	316
21	99	1,120	1,420	16,600	2,530	8,080	4,900	9,640	9,390	724	740	322
22	121	1,240	1,350	28,100	2,300	7,770	4,500	10,300	9,670	668	652	256
23	125	724	1,280	8,390	2,200	8,110	4,700	10,500	9,620	604	700	262
24	125	644	1,220	6,000	2,130	8,580	6,000	10,400	8,470	526	676	268
25	121	612	1,150	5,570	2,200	7,270	5,300	10,500	8,130	512	692	388
26	118	588	1,100	4,720	2,070	6,420	4,700	10,800	8,550	463	716	286
27	121	580	1,060	6,100	1,960	5,880	4,900	10,800	8,380	407	709	268
28	138	636	1,000	8,990	1,900	5,380	4,600	10,500	7,900	394	700	274
29	138	4,190	970	24,700	- - - - -	5,310	4,150	10,000	7,640	346	692	274
30	143	6,150	915	24,200	- - - - -	4,880	3,900	9,500	7,460	340	684	286
31	143	- - - - -	915	26,900	- - - - -	5,720	- - - - -	9,200	- - - - -	322	692	- - - - -
Total	3,483	22,255	110,210	178,615	118,220	183,470	158,610	232,560	247,390	64,725	17,077	12,412
Mean	112	742	3,555	5,762	4,222	5,918	5,287	7,502	8,246	2,088	551	414
Max	156	6,150	13,000	28,100	16,400	26,100	8,410	10,800	11,000	7,410	740	692
Min	76	76	915	825	1,900	1,690	3,900	3,300	5,280	322	239	256
Ac-ft	6,910	44,140	218,500	354,300	234,500	363,900	314,600	461,300	490,700	128,400	33,870	24,620

Cal yr 1966: Total 508,799 Mean 1,394 Max 13,000 Min 32 Ac-ft 1,009,000
Wtr yr 1967: Total 1,349,027 Mean 3,696 Max 28,100 Min 76 Ac-ft 2,676,000

11-4217.2. BOARDMAN CANAL NEAR EMIGRANT GAP, CALIF.

LOCATION (revised).--Lat 39°17'49", long 120°42'08", in SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.35, T.17 N., R.11 E., on right bank 0.4 mile downstream from Boardman diversion dam and 1.8 miles west of Emigrant Gap.

RECORDS AVAILABLE.--October 1964 to September 1967.

GAGE.--Graphic water-stage recorder and Parshall flume. Altitude of gage is 5,020 ft (from topographic map). Prior to June 14, 1967, graphic water-stage recorder 0.25 mile downstream at different datum.

EXTREMES.--1964-67: Maximum daily discharge, 43 cfs Dec. 21, 1964; no flow for many days in each year.

REMARKS.--Records good. Water is diverted from Bear River to be used for power development and irrigation in the Bear River basin.

COOPERATION.--Water-stage recorder graph and 12 discharge measurements furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	27	28	0	20	19	20	15	16	15	24	24	23
2	27	28	0	20	19	20	15	16	15	24	24	28
3	27	28	0	20	19	20	15	15	15	24	24	28
4	27	28	0	20	19	23	15	16	15	25	24	23
5	28	28	0	20	19	25	15	16	15	25	24	28
6	28	28	0	20	19	24	15	16	15	25	24	28
7	28	28	0	20	20	24	15	16	15	24	24	28
8	28	28	0	20	19	25	15	15	15	24	24	28
9	28	28	0	20	20	25	15	15	15	24	24	28
10	27	28	0	20	20	26	15	15	15	24	24	28
11	28	28	0	21	20	25	15	15	16	24	24	28
12	28	28	0	21	20	24	15	15	15	24	26	28
13	28	28	0	20	20	25	14	15	15	24	28	28
14	28	9.2	0	21	20	26	14	16	12	24	28	28
15	28	0	0	21	20	24	14	16	12	24	28	28
16	28	0	0	20	20	14	14	16	12	24	28	28
17	27	0	0	20	20	5.0	13	15	12	24	28	28
18	28	0	0	20	20	4.0	13	15	11	24	28	28
19	28	0	0	20	20	3.7	13	15	11	24	28	28
20	28	0	12	22	19	3.4	15	15	15	24	28	28
21	28	0	21	25	19	17	17	15	17	24	29	28
22	28	0	20	10	19	28	17	15	17	24	28	28
23	28	0	20	19	19	22	16	15	17	24	28	29
24	28	0	21	19	19	16	16	15	17	24	23	29
25	28	0	21	20	20	16	15	15	17	24	28	29
26	28	0	21	21	20	16	14	15	17	24	28	29
27	28	0	20	21	20	16	14	15	17	24	28	29
28	28	0	19	21	20	16	16	15	17	24	28	29
29	28	0	20	20	---	16	16	15	22	24	28	29
30	28	0	20	20	---	16	16	15	24	24	28	29
31	28	---	20	19	---	15	---	15	---	24	28	---
Total	862	373.2	235	621	548	580.1	447	475	463	747	823	848
Mean	27.8	12.4	7.58	20.0	19.6	18.7	14.9	15.3	15.4	24.1	26.5	28.3
Max	28	28	21	25	20	28	17	16	24	25	29	29
Min	27	0	0	10	19	3.4	13	15	11	24	24	28
Ac-ft	1710	740	466	1230	1090	1150	887	942	918	1480	1630	1680
Cal yr 1966: Total	8314.2		Mean	22.8	Max	34	Min	0	Ac-ft	16490		
Wtr yr 1967: Total	7022.3		Mean	19.2	Max	29	Min	0	Ac-ft	13930		

SACRAMENTO RIVER BASIN

11-4217.5. DUTCH FLAT NO. 1 POWERPLANT NEAR DUTCH FLAT, CALIF.

LOCATION.--Lat 39°13'02", long 120°50'04", in SW¼SE¼ sec.27, T.16 N., R.10 E., at powerplant 0.75 mile north of Dutch Flat.

RECORDS AVAILABLE.--October 1964 to September 1967.

GAGE.--Recorded powerplant output.

EXTREMES.--1964-67: Maximum daily discharge, 548 cfs for several days in January, February, April 1965; no flow for many days in each year.

REMARKS.--Water is diverted from Drum Afterbay through a tunnel to Dutch Flat No. 1 powerplant and returned to Dutch Flat Afterbay.

COOPERATION.--Records furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	63	61	70	52	437	0	282	289	324	297	246	119
2	206	58	203	45	332	207	273	308	317	247	201	177
3	68	58	395	52	268	524	280	315	316	334	262	112
4	169	58	233	45	335	256	280	348	300	289	250	107
5	165	58	395	52	261	45	336	343	295	359	206	116
6	68	45	330	45	232	92	296	335	335	193	201	110
7	63	434	394	141	0	198	315	364	281	309	203	121
8	61	502	306	143	0	184	312	470	330	310	232	119
9	61	514	236	152	0	45	298	340	273	293	264	119
10	63	514	314	170	0	32	312	439	320	302	226	150
11	63	495	280	171	0	16	332	436	292	301	233	203
12	63	536	222	152	0	16	321	376	295	299	223	213
13	63	512	271	159	0	16	343	349	306	251	221	173
14	58	510	266	169	0	16	316	375	362	325	232	199
15	68	500	230	149	0	45	326	371	260	274	196	193
16	61	531	232	171	0	199	333	425	296	281	149	41
17	61	514	230	155	0	290	317	413	285	318	157	0
18	58	510	231	155	0	37	325	405	296	283	216	173
19	58	482	232	152	0	16	322	386	307	280	237	179
20	63	525	202	132	0	32	311	367	276	255	252	185
21	63	531	219	205	0	0	341	389	310	296	219	179
22	61	529	203	215	0	0	296	353	281	292	156	177
23	65	506	0	26	0	0	283	358	322	250	133	179
24	37	128	45	243	0	0	299	360	260	313	135	179
25	37	0	45	209	0	0	356	301	317	280	133	168
26	76	55	52	206	0	58	330	326	319	287	133	174
27	41	63	52	240	0	129	294	321	290	289	124	171
28	68	45	45	276	0	0	294	271	280	273	133	183
29	55	0	52	455	-----	0	252	361	335	317	126	176
30	63	0	52	528	-----	109	300	257	281	288	112	174
31	68	-----	52	528	-----	268	-----	340	-----	249	125	-----
Total	2,237	9,274	6,089	5,593	1,865	2,830	9,275	11,091	9,061	8,934	5,936	4,569
Mean	72.2	309	196	180	66.6	91.3	309	358	302	288	191	152
Max	206	536	395	528	437	524	356	470	362	359	264	213
Min	37	0	0	26	0	0	252	257	260	193	112	0
Ac-ft	4,440	18,390	12,080	11,090	3,700	5,610	18,400	22,000	17,970	17,720	11,770	9,060

Cal yr 1966: Total 80,505 Mean 221 Max 545 Min 0 Ac-ft 159,700
Wtr yr 1967: Total 76,754 Mean 210 Max 536 Min 0 Ac-ft 152,200

SACRAMENTO RIVER BASIN

907

11-4217.6. DUTCH FLAT NO. 2 FLUME NEAR BLUE CANYON, CALIF.

LOCATION.--Lat 39°15'15", long 120°46'30", in SE¼NE¼ sec.18, T.16 N., R.11 E., on left bank 600 ft downstream from Drum afterbay and 3.6 miles west of Blue Canyon.

RECORDS AVAILABLE.--October 1965 to September 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is 3,348.09 ft above mean sea level (levels by Nevada Irrigation District).

EXTREMES.--1965-67: Maximum daily discharge, 599 cfs Dec. 29, 1965; no flow for many days in each year.

REMARKS.--Records good. Water is diverted from Drum afterbay through the flume to Dutch Flat No. 2 powerplant and returned to Dutch Flat afterbay.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	451	462	494	230	567	529	550	506	500	468	506	551
2	316	460	553	230	565	213	547	502	501	496	540	489
3	446	462	553	232	565	0	546	491	467	473	544	553
4	317	460	532	234	470	490	549	501	491	481	543	554
5	391	472	554	230	572	460	556	524	495	482	544	554
6	430	412	558	247	582	393	558	529	508	487	544	556
7	460	88	561	576	479	412	556	534	496	480	549	556
8	443	0	545	572	177	245	564	543	435	472	549	551
9	444	0	568	574	0	217	558	549	502	479	549	551
10	480	0	563	572	0	350	560	551	499	468	550	556
11	428	0	572	579	0	189	558	518	497	466	550	556
12	444	0	565	575	0	126	558	516	495	466	547	556
13	467	0	568	574	0	228	557	518	514	464	547	554
14	441	0	571	571	132	262	556	539	384	463	549	556
15	458	0	571	574	316	305	560	509	528	466	547	411
16	461	0	570	578	371	490	565	505	499	471	297	0
17	463	0	570	571	490	392	563	505	512	461	458	144
18	464	0	571	560	536	136	560	497	511	461	544	550
19	460	0	570	357	561	133	560	502	503	475	544	542
20	422	0	570	353	564	71	558	498	505	463	549	546
21	432	0	571	555	561	111	561	495	488	462	549	551
22	459	0	424	370	561	111	564	495	474	450	547	549
23	458	90	267	357	556	138	561	496	474	462	550	546
24	502	406	263	577	534	108	560	487	488	454	551	556
25	442	429	293	574	404	40	487	495	487	466	551	556
26	484	406	277	578	403	0	556	496	483	464	551	550
27	454	386	269	574	446	65	490	498	484	452	547	551
28	469	473	235	575	544	158	493	499	483	455	544	553
29	456	536	194	575	- - - -	220	524	499	484	446	557	554
30	469	464	204	574	- - - -	393	491	500	482	457	553	554
31	451	- - - -	230	570	- - - -	561	- - - -	505	- - - -	458	547	- - - -
Total	11,761	5,926.8	14,406	14,868	10,956	7,546	16,426	15,802	14,669	14,468	16,597	15,406
Mean	444	198	465	480	391	243	548	510	489	467	535	514
Max	502	536	572	579	582	561	565	551	528	496	557	556
Min	316	0	194	230	0	0	487	487	384	446	297	0
Ac-ft	27,290	11,760	28,570	29,490	21,730	14,970	32,580	31,340	29,100	28,700	32,920	30,560

Cal yr 1966: Total 90,398.8 Mean 248 Max 572 Min 0 Ac-ft 179,300
 Wtr yr 1967: Total 160,831.8 Mean 441 Max 582 Min 0 Ac-ft 319,000

SACRAMENTO RIVER BASIN

11-4217.7. BEAR RIVER BELOW DRUM AFTERBAY, NEAR BLUE CANYON, CALIF.

LOCATION.--Lat 39°15'11", long 120°46'31", in SE¼NE¼ sec.18, T.16 N., R.11 E., on left bank 1,000 ft below Drum afterbay dam and 3.5 miles west of Blue Canyon. Prior to May 25, 1967 at site 1,000 ft upstream.

DRAINAGE AREA.--12.3 sq mi.

RECORDS AVAILABLE.--April 1966 to September 1967, low flows only April to September 1966.

GAGE.--Graphic water-stage recorder and broad-crested weir. Altitude of gage is 3,300 ft (from topographic map). Prior to May 25, 1967, at site 1,000 ft upstream at different datum.

EXTREMES.--Maximum daily discharge during year, 492 cfs Feb. 8; minimum daily, 2.3 cfs Oct. 2.

REMARKS.--Records fair. Water for Dutch Flat No. 1 powerplant (see sta. no. 4217.5) and Dutch Flat No. 2 flume (see sta. no. 4217.6) is diverted from Drum afterbay just upstream from station.

COOPERATION.--Water-stage recorder graph and 15 discharge measurements furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.6	6.7	5.4	5.1	5.8	9.4	9.0	10	12	11	11	10
2	2.3	6.7	5.4	5.8	4.6	12	9.0	10	11	11	11	8.2
3	3.1	6.7	4.1	6.1	6.4	12	9.4	10	12	11	12	10
4	3.5	6.7	5.1	5.8	6.4	11	9.8	10	12	11	9.4	10
5	3.0	7.0	4.8	6.4	6.4	11	12	10	12	12	9.4	10
6	2.6	6.4	5.1	6.4	6.4	11	12	10	12	13	9.4	10
7	3.5	5.4	5.4	6.7	70	11	12	10	12	12	9.4	10
8	6.7	5.4	5.4	5.8	492	11	14	9.8	11	12	9.4	9.4
9	7.0	6.1	4.6	5.8	185	10	15	9.8	12	13	9.4	10
10	7.0	6.4	4.6	5.8	170	10	15	10	12	12	9.4	10
11	6.4	6.7	4.6	6.4	155	10	12	9.8	12	9.4	8.8	10
12	6.4	6.1	4.6	6.4	211	10	9.4	9.8	12	10	8.8	9.4
13	6.4	6.7	4.4	5.8	80	10	9.4	9.8	12	11	8.8	9.4
14	6.4	6.7	4.1	6.4	27	9.8	11	9.8	12	10	8.8	9.4
15	6.4	6.7	5.4	7.0	89	10	11	9.8	14	12	8.8	71
16	6.4	6.7	4.6	7.0	69	10	9.8	10	13	12	7.0	10
17	6.7	6.4	4.4	7.0	41	11	10	9.8	14	10	7.0	10
18	6.4	6.4	4.6	6.7	24	11	10	9.4	15	12	8.8	10
19	6.4	6.4	5.4	6.4	25	11	9.8	9.4	13	10	7.0	7.1
20	6.4	6.4	5.4	7.0	13	10	9.8	9.4	12	12	8.2	10
21	6.4	6.4	4.6	6.7	11	9.4	9.8	9.4	12	12	8.8	10
22	6.4	6.4	4.6	5.6	14	9.4	10	9.4	13	11	8.8	10
23	6.4	6.1	4.1	6.1	14	9.8	10	9.4	12	8.8	8.8	10
24	6.4	6.4	4.1	6.7	12	9.8	10	9.4	12	11	8.8	10
25	6.4	6.1	4.1	6.4	5.6	10	10	7.7	11	9.4	9.4	10
26	6.4	6.1	3.9	6.1	5.6	9.8	9.4	3.0	11	9.4	9.4	10
27	6.4	6.1	3.5	6.4	6.7	10	9.4	20	11	10	10	10
28	6.4	6.1	3.9	5.8	6.7	9.8	9.4	20	12	9.4	10	10
29	6.4	6.1	4.1	14	- - - - -	10	9.8	12	11	11	10	10
30	6.4	6.1	4.6	6.4	- - - - -	9.8	9.8	11	12	14	10	11
31	6.1	- - - - -	4.1	11	- - - - -	9.4	- - - - -	12	- - - - -	10	10	- - - - -
Total	177.7	190.6	143.0	207.0	1767.6	318.4	317.0	324.9	354	342.4	285.8	354.9
Mean	5.73	6.35	4.61	6.68	63.1	10.3	10.6	10.5	12.1	11.0	9.22	11.8
Max	7.0	7.0	3.5	14	492	12	15	20	15	14	12	71
Min	2.3	5.4	5.4	5.1	4.6	9.4	9.0	7.7	11	9.4	7.0	7.1
Ac-ft	352	378	284	411	3510	632	629	644	722	679	567	704
Cal yr 1966: Total	-	-	-	-	-	-	-	-	-	-	-	-
Wtr yr 1967: Total	4,793.3	-	Mean 13.1	-	Max 492	Min 2.3	-	Ac-ft 9,510	-	-	-	-

SACRAMENTO RIVER BASIN

909

11-4217.8. CHICAGO PARK FLUME NEAR DUTCH FLAT, CALIF.

LOCATION.--Lat 39°12'55", long 120°50'25", in NW¼NE¼ sec.34, T.16 N., R.10 E., on left bank 250 ft downstream from Dutch Flat Afterbay and 0.6 mile north of Dutch Flat.

RECORDS AVAILABLE.--November 1965 to September 1967.

GAGE.--Graphic water-stage recorder. Altitude of gage is 2,600 ft (from topographic map).

EXTREMES.--1965-67: Maximum daily discharge, 1,030 cfs Feb. 1, May 31, 1967; no flow for several days in each year.

REMARKS.--Records good. Flow regulated by Dutch Flat Afterbay.

COOPERATION.--One discharge measurement furnished by Pacific Gas and Electric Co.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	436	529	621	0	1030	569	779	906	725	746	790	709
2	394	511	688	0	916	609	820	916	870	790	783	709
3	651	522	258	0	712	588	822	918	817	768	793	709
4	467	505	0	0	896	582	830	922	824	740	783	711
5	491	512	0	0	772	575	936	925	807	751	789	715
6	470	518	0	165	691	572	931	930	848	671	792	723
7	502	537	0	624	392	553	955	934	888	802	793	698
8	509	529	525	673	540	396	985	937	862	782	799	711
9	497	537	767	768	508	302	913	952	825	727	807	709
10	526	508	901	677	476	464	889	952	834	795	797	751
11	460	523	781	688	576	400	967	958	817	772	797	797
12	464	536	765	673	487	225	894	960	827	732	799	807
13	505	425	791	673	519	356	906	968	877	684	799	799
14	477	616	781	688	716	397	931	968	807	792	782	799
15	504	527	744	653	694	441	925	955	831	762	720	611
16	406	564	736	690	750	814	944	973	746	782	391	24
17	624	561	742	667	705	763	936	979	799	796	641	74
18	501	533	763	663	614	354	986	976	835	725	844	755
19	520	431	743	476	872	460	982	976	814	792	849	754
20	439	505	725	413	725	50	866	984	748	690	831	750
21	467	630	746	822	651	0	986	988	814	811	781	748
22	484	554	582	707	722	0	966	992	775	730	758	695
23	501	491	342	466	700	54	944	997	758	694	760	687
24	502	469	327	803	670	233	932	1000	732	769	730	688
25	471	481	345	733	397	321	907	806	793	778	719	692
26	511	490	327	760	418	120	894	779	774	732	600	699
27	515	478	317	830	471	119	785	732	772	732	718	740
28	414	522	321	836	585	109	892	784	734	704	709	737
29	515	716	230	1020	-----	200	898	1020	786	793	720	737
30	621	527	19	1020	-----	452	904	617	733	748	706	743
31	501	-----	0	1020	-----	820	-----	1030	-----	683	709	-----
Total	15,345	15,787	15,009	18,208	18,205	11,903	27,305	28,734	24,072	23,273	23,289	20,480
Mean	495	526	484	587	650	384	910	927	802	751	751	683
Max	651	716	901	1020	1030	814	986	1030	888	811	849	807
Min	394	425	0	0	392	0	779	617	725	571	391	24
Ac-ft	30,440	31,310	29,770	36,120	36,110	23,610	54,160	56,990	47,750	46,160	46,190	40,620

Cal yr 1966 Total 163,535 Mean 448 Max 980 Min 0 Ac-ft 324,400
Wtr yr 1967 Total 241,610 Mean 662 Max 1030 Min 0 Ac-ft 479,200

SACRAMENTO RIVER BASIN

11-4217.9. BEAR RIVER BELOW DUTCH FLAT AFTERBAY, NEAR DUTCH FLAT, CALIF.

LOCATION.--Lat 39°12'55", long 120°50'25", in NE¼NW¼ sec.34, T.16 N., R.10 E., at the left bank downstream end of spillway, on Dutch Flat afterbay dam, 0.6 mile north of Dutch Flat.

DRAINAGE AREA.--21.5 sq mi (revised).

RECORDS AVAILABLE.--December 1965 to September 1967.

GAGE.--Graphic water-stage recorder and concrete control. Altitude of gage is 2,600 ft (from topographic map).

EXTREMES.--Maximum discharge during year, 1,390 cfs Dec. 5, 6; minimum daily, 3.7 cfs Mar. 26.

1965-67: Maximum discharge, 1,390 cfs Dec. 5, 6, 1966; minimum daily, 0.2 cfs Dec. 15, 1965.

REVISIONS.--The maximum discharge for the water year 1966 has been revised to 1,310 cfs Dec. 1, 1965, superseding figure published in Surface Water Records of California, Part 1, Vol. 2, 1966.

REMARKS.--Records good. Water is imported from South Yuba River basin via South Yuba Canal (see sta. no. 4142) and Drum Canal above forebay (see sta. no. 4141.9). Chicago Park flume (see sta. no. 4217.8) diverts above station to Chicago Park powerplant. Records include spill over Dutch Flat afterbay dam. This station measures flow from Dutch Flat afterbay in connection with a Federal Power Commission project.

COOPERATION.--Records of spill over Dutch Flat afterbay dam furnished by Nevada Irrigation District.

REVISIONS.--Revised figures of discharge for the period December 1965 to September 1966, superseding those published in Surface Water Records of California, Part 1, Vol. 2, 1966, are given herewith.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			876	0.50	5.7	279	2.5	9.6	8.8	9.6	9.4	9.6
2			889	.50	6.0	314	2.5	9.6	8.8	9.6	9.1	9.6
3			919	.50	6.0	362	2.5	9.6	8.8	9.6	9.4	9.6
4			914	.50	6.0	386	2.5	9.9	9.1	9.9	9.1	9.6
5			813	150	6.0	384	2.5	9.6	9.1	9.6	9.4	9.6
6			513	.50	6.0	384	4.6	9.6	9.1	9.1	9.4	9.6
7			109	.50	6.0	408	6.9	9.6	9.1	8.3	9.6	9.6
8			248	.50	6.0	436	161	9.6	9.1	8.3	9.6	9.6
9			272	.50	6.0	441	7.1	9.6	9.4	8.8	9.6	9.6
10			207	.50	6.0	599	6.9	9.6	9.4	9.1	9.6	9.6
11			282	.60	6.0	606	7.1	9.6	9.4	9.1	9.6	9.6
12			283	.60	163	567	7.1	9.4	9.6	9.4	9.6	9.6
13			529	24	246	645	6.9	9.4	9.4	9.1	9.6	170
14			20	4.2	294	674	6.9	9.1	9.4	9.1	9.6	75
15			.20	.50	364	674	6.9	9.1	9.4	9.1	9.6	8.6
16			4.6	.50	335	774	6.9	9.1	9.4	9.1	9.6	8.6
17			.30	.50	335	856	6.9	9.4	9.4	9.1	9.6	8.8
18			30	.50	273	852	6.7	9.4	9.4	9.4	9.6	9.1
19			.50	.50	153	893	6.9	411	9.4	9.1	9.6	9.4
20			.50	.50	163	782	6.9	9.1	9.1	9.4	9.6	9.1
21			.50	3.8	176	513	6.9	9.4	9.1	9.4	9.6	9.1
22			.40	8.2	195	6.0	6.9	9.4	9.1	9.4	9.6	9.4
23			141	9.2	291	6.0	6.9	9.4	9.1	9.4	9.6	9.4
24			20	8.2	443	186	6.9	9.6	9.1	9.6	9.6	9.4
25			34	8.2	397	184	6.9	9.6	9.1	9.4	9.6	9.4
26			38	3.0	205	6.0	6.9	9.6	9.1	9.4	9.6	9.4
27			36	7.4	163	5.7	6.9	9.4	9.4	9.4	9.6	9.4
28			280	7.0	184	5.7	6.9	9.4	9.6	9.6	9.6	9.4
29			28	5.5	-----	3.8	8.0	9.4	9.6	9.4	9.6	9.6
30			.50	5.7	-----	2.5	9.6	9.1	9.6	9.4	9.6	9.6
31			.50	5.7	-----	14	-----	8.8	-----	9.4	9.6	-----
Total			7,489.00	262.80	4,460.7	12,253.7	341.0	694.0	277.4	287.6	295.8	507.9
Mean			242	8.48	159	395	11.4	22.4	9.25	9.28	9.54	16.9
Max			919	150	443	893	161	411	9.6	9.9	9.6	170
Min			0.20	0.50	5.7	2.5	2.5	8.8	8.8	8.3	9.1	8.6
Ac-ft			14,850	521	8,850	24,300	676	1,380	550	570	587	1,010

Cal yr 1965: Total - Mean - Max - Min - Ac-ft -
 Wtr yr 1966: Total - Mean - Max - Min - Ac-ft -

Note.--No gage-height record Dec. 1-15.

11-4217.9. BEAR RIVER BELOW DUTCH FLAT AFTERBAY, NEAR DUTCH FLAT, CALIF.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9.6	7.1	4.0	334	11	5.0	4.0	11	22	11	11	11
2	9.6	4.6	206	334	4.4	5.0	4.0	11	12	11	11	11
3	9.6	4.2	681	334	4.4	5.0	4.0	11	12	11	11	11
4	9.6	4.2	860	334	4.4	5.0	4.0	11	12	11	11	11
5	9.6	4.2	1,280	334	4.4	5.0	4.0	11	14	11	11	11
6	9.6	4.2	1,220	182	4.4	5.0	4.0	49	12	11	11	11
7	9.6	4.2	1,060	4.4	28	4.8	4.0	96	12	11	11	12
8	9.6	4.0	443	4.4	4.4	4.6	4.0	106	12	11	11	12
9	9.6	4.0	4.0	4.4	4.4	4.6	4.0	149	12	11	11	12
10	9.6	4.0	4.0	4.4	4.4	10	4.0	235	12	11	11	12
11	9.6	4.0	4.0	4.4	4.4	4.6	4.0	161	12	12	11	12
12	9.6	4.0	4.0	4.4	4.4	4.6	4.0	75	12	12	11	12
13	9.6	4.0	4.0	4.4	4.6	4.6	4.0	18	12	12	11	12
14	9.6	4.0	4.0	4.4	4.6	4.6	4.0	83	12	12	11	12
15	9.6	4.0	4.2	4.4	4.6	4.6	4.0	34	12	12	11	12
16	9.6	4.0	4.2	4.4	4.6	379	4.0	83	44	12	11	12
17	9.6	4.0	4.2	4.4	4.6	61	4.0	57	12	12	11	12
18	9.6	4.0	4.2	4.4	4.6	4.8	4.0	37	12	12	11	12
19	9.6	4.0	4.2	4.4	4.6	4.8	4.0	13	12	12	11	12
20	9.6	31	4.2	4.4	4.4	4.8	4.0	11	12	12	11	12
21	9.6	4.0	4.2	369	4.4	174	4.0	11	11	12	11	12
22	9.6	4.0	4.4	12	4.8	245	4.0	11	11	11	11	12
23	9.6	4.0	4.4	4.2	4.8	291	4.0	11	11	11	11	12
24	9.6	4.0	4.4	4.2	4.8	183	4.0	11	11	11	11	12
25	9.6	4.0	4.4	4.2	4.8	113	29	11	11	11	11	12
26	9.6	4.0	4.4	4.2	4.8	3.7	89	11	11	11	11	12
27	9.6	4.0	4.4	4.2	4.8	3.8	182	14	11	11	11	12
28	9.6	4.0	4.4	4.2	4.8	3.8	6.6	23	11	11	11	12
29	9.6	4.0	4.4	278	- - - -	4.0	11	11	11	11	11	12
30	9.6	4.0	87	190	- - - -	4.0	11	11	11	11	11	12
31	9.6	- - - -	323	253	- - - -	4.0	- - - -	11	- - - -	11	11	- - - -
Total	297.6	151.7	6,257.6	3,040.8	157.6	1,560.7	423.6	1,397	394	352	341	354
Mean	9.60	5.06	202	98.1	5.63	50.3	14.1	45.1	13.1	11.4	11.0	11.8
Max	9.6	31	1,280	369	28	379	182	235	44	12	11	12
Min	9.6	4.0	4.0	4.2	4.4	3.7	4.0	11	11	11	11	11
Ac-ft	590	301	12,410	6,030	313	3,100	840	2,770	781	698	676	702

Cal yr 1966: Total 26,087.8 Mean 71.5 Max 1,280 Min 0.5 Ac-ft 51,740
Wtr yr 1967: Total 14,727.6 Mean 40.3 Max 1,280 Min 3.7 Ac-ft 29,210

SACRAMENTO RIVER BASIN

11-4218. ROLLINS RESERVOIR NEAR COLFAX, CALIF.

LOCATION.--Lat 39°08'05", long 120°56'54", in NE¼SE¼ sec.22, T.15 N., R.9 E., on left bank just upstream from Rollins Dam on Bear River, 2.3 miles north of Colfax.

DRAINAGE AREA.--104 sq mi.

RECORDS AVAILABLE.--December 1964 to September 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is at mean sea level (levels by Nevada Irrigation District).

EXTREMES.--Maximum contents during year, 68,800 acre-ft Jan. 21 (elevation, 2,174.3 ft); minimum, 56,900 acre-ft Oct. 2 (elevation, 2,159.5 ft).

1964-67: Maximum contents, 68,800 acre-ft Jan. 21, 1967 (elevation, 2,174.3 ft); minimum since initial filling of reservoir, 28,100 acre-ft Mar. 7, 1965 (elevation, 2,110.0 ft).

REMARKS.--Reservoir is formed by earthfill dam. Storage began Dec. 15, 1964. Usable capacity, 65,720 acre-ft between elevations 1,970.0 (invert of outlet tunnel) and 2,171.0 ft (spillway crest) above mean sea level. Dead storage, 270 acre-ft. Several diversions into and out of basin upstream for power development and irrigation. Stored water is released into Bear River, part of which is diverted to Pacific Gas and Electric's Bear River Canal for power development. Water is later used for irrigation. Records, including extremes, represent total contents at 2400 hours.

CAPACITY TABLE (ELEVATION, IN FEET, AND CONTENTS, IN ACRE-FT)

2,050	8,940	2,120	32,700
2,060	11,200	2,140	43,800
2,080	16,800	2,175	69,400
2,100	23,900		

Contents, in acre-feet, at 2400 hours, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	57,200	57,900	67,000	64,300	67,300	66,900	66,900	66,800	66,700	66,600	66,200	66,200
2	56,900	57,900	67,500	64,200	67,100	67,000	66,900	66,800	66,700	66,600	66,300	66,200
3	57,200	58,000	66,800	63,900	66,900	66,800	66,900	66,800	66,700	66,500	66,300	66,200
4	57,200	58,000	66,800	63,700	67,000	66,700	66,900	66,800	66,700	66,500	66,200	66,200
5	57,200	58,100	67,300	63,500	66,900	66,700	67,000	66,800	66,700	66,500	66,200	66,200
6	57,300	58,400	67,200	63,400	66,800	66,700	67,300	66,900	66,700	66,500	66,200	66,200
7	57,400	58,400	67,000	63,900	66,500	66,600	67,200	67,000	66,700	66,500	66,200	66,200
8	57,500	60,600	66,900	64,300	66,600	66,300	67,000	67,000	66,700	66,500	66,200	66,200
9	57,500	61,600	66,800	65,000	66,500	66,100	67,000	67,100	66,700	66,500	66,200	66,200
10	57,600	62,700	66,700	65,700	66,500	66,200	67,000	67,200	66,700	66,500	66,200	66,200
11	57,500	63,200	66,700	66,300	66,700	66,300	67,000	67,100	66,700	66,500	66,200	66,200
12	57,500	63,500	66,700	66,600	66,500	66,500	67,000	67,000	66,700	66,500	66,200	66,300
13	57,600	63,400	66,700	66,700	66,700	66,500	66,900	66,900	66,700	66,400	66,200	66,300
14	57,600	63,300	66,700	66,700	66,800	66,600	66,900	67,000	66,700	66,500	66,200	66,300
15	57,700	64,000	66,700	66,600	66,800	66,900	66,900	66,900	66,700	66,500	66,200	66,100
16	57,500	64,300	66,700	66,600	66,800	68,500	66,900	67,000	66,700	66,500	66,500	64,300
17	57,800	65,100	66,700	66,600	66,700	67,200	67,000	67,000	66,700	66,500	66,500	63,800
18	57,800	65,200	66,700	66,600	66,700	66,800	67,000	66,900	66,700	66,400	66,300	64,200
19	57,800	65,600	66,700	66,400	66,800	66,100	67,000	66,900	66,700	66,500	66,200	64,500
20	57,800	66,700	66,700	66,700	66,900	66,400	66,900	66,900	66,700	66,400	66,200	64,300
21	57,800	66,700	66,700	68,300	66,300	66,400	66,900	66,900	66,700	66,500	66,200	65,200
22	57,800	66,600	66,500	67,100	67,100	66,400	66,900	66,900	66,700	66,500	66,200	65,500
23	57,800	66,400	66,200	66,700	67,100	66,500	67,000	66,900	66,700	66,400	66,200	65,700
24	57,800	66,400	66,100	66,900	66,900	66,500	67,000	66,800	66,700	66,500	66,200	65,900
25	57,800	66,400	66,000	66,800	66,900	66,400	67,000	66,900	66,700	66,500	66,200	65,200
26	57,800	66,400	65,300	67,000	66,800	66,200	67,000	66,800	66,700	66,500	65,900	66,200
27	57,800	66,300	65,700	67,000	66,900	66,200	67,000	66,700	66,600	66,400	66,000	66,300
28	57,700	66,600	65,600	67,200	67,000	66,100	66,900	66,800	66,600	66,400	66,000	66,400
29	57,600	66,700	65,200	67,700	-----	66,300	66,900	66,800	66,600	66,500	66,100	66,400
30	57,900	66,600	64,800	67,700	-----	66,700	66,900	66,700	66,600	66,400	66,200	66,400
31	57,900	-----	64,600	67,700	-----	66,900	-----	66,900	-----	66,300	66,200	-----
(+)	2,160.8	2,171.7	2,169.3	2,173.0	2,172.2	2,172.1	2,172.1	2,172.0	2,171.7	2,171.4	2,171.2	2,171.5
(+)	+700	+8,700	+2,000	+3,100	-700	-100	0	-100	+200	+300	-100	+200
Max	57,900	66,700	67,500	68,800	67,300	68,500	67,300	67,200	66,700	66,600	66,300	66,400
Min	56,900	57,900	64,600	63,400	66,500	66,100	66,900	66,700	66,600	66,300	65,500	63,800

Calendar year 1966..... † -2,000 Max 67,500 Min 56,900
 Water year 1966-67..... † +9,200 Max 68,800 Min 56,900

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-feet.

11-4220. BEAR RIVER CANAL INTAKE NEAR COLFAX, CALIF.

LOCATION.--Lat 39°07'58", long 120°57'12", in SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec.22, T.15 N., R.9 E., on right bank 600 ft downstream from canal inlet, 0.25 mile below Rollins Dam, and 2.2 miles north of Colfax.

RECORDS AVAILABLE.--January 1912 to September 1953, October 1964 to September 1967. Monthly discharge only for some periods published in WSP 1315-A. Prior to 1913, published as Pacific Gas and Electric Co.'s Canal near Colfax.

GAGE.--Graphic water-stage recorder. Altitude of gage is 1,980 ft (from topographic map). Prior to Mar. 25, 1946, at site 1.5 miles downstream at different datum.

AVERAGE DISCHARGE.--44 years (1912-53, 1964-67), 264 cfs (191,100 acre-ft per year).

EXTREMES.--1912-53, 1964-67: Maximum daily discharge, 499 cfs Apr. 20-22, 1966, Aug. 1-3, 1967; no flow at times in most years.

REMARKS.--Records good. Canal diverts from left bank of Bear River. Water is first used to develop power at Halsey and Wise Powerhouse, part of it is then distributed for irrigation and part is eventually spilled into North Fork American River.

COOPERATION.--Water-stage recorder graph and 13 discharge measurements furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	485	479	481	467	415	0	452	454	469	488	499	498
2	486	481	434	467	438	16	453	455	463	488	499	498
3	487	482	404	467	453	85	453	455	463	490	499	498
4	484	483	399	467	453	320	453	454	468	490	498	497
5	476	483	403	467	452	352	454	453	467	491	498	497
6	476	483	403	467	451	352	427	453	468	491	498	497
7	480	54	398	474	450	414	405	453	469	492	497	497
8	485	0	426	486	450	455	423	451	471	492	497	497
9	480	0	470	485	450	454	448	450	473	493	496	496
10	480	0	461	481	464	453	417	450	476	493	496	496
11	480	252	455	479	470	453	425	443	477	491	496	496
12	480	435	455	478	470	429	451	447	479	492	495	496
13	479	480	455	478	461	401	452	446	479	492	495	496
14	480	480	455	478	452	412	452	446	480	493	495	496
15	479	481	456	478	455	429	452	456	480	493	496	495
16	477	481	456	478	455	379	452	469	481	493	496	495
17	476	481	456	479	455	382	437	470	481	494	497	495
18	475	480	456	479	456	413	408	469	480	494	497	495
19	474	481	456	479	444	430	406	474	481	495	497	495
20	475	483	456	465	0	430	436	475	481	495	497	496
21	475	482	456	436	0	445	451	471	482	495	497	496
22	475	481	457	404	0	454	451	457	482	496	497	496
23	476	481	457	386	0	455	451	450	484	496	497	496
24	476	481	470	388	0	459	453	443	484	495	497	495
25	477	480	478	402	0	463	453	459	484	495	497	495
26	477	480	478	452	0	463	453	463	485	495	497	495
27	473	480	473	456	0	463	453	468	486	495	497	494
28	479	481	463	433	0	463	453	469	487	495	497	493
29	479	480	463	422	- - - -	462	453	467	487	495	497	492
30	480	253	468	413	- - - -	420	453	459	483	496	497	491
31	480	- - - -	463	421	- - - -	453	- - - -	467	- - - -	498	497	- - - -
Total	14,346	12,009.4	13,976	14,122	8,594	12,044.6	13,280	14,206	14,345	15,291	15,405	14,369
Mean	479	400	451	456	307	389	443	459	478	493	497	496
Max	487	483	481	486	470	463	453	475	483	498	499	498
Min	474	0	398	386	0	0	405	443	467	488	495	491
Ac-ft	29,450	23,320	27,720	28,010	17,050	23,900	26,340	29,180	28,450	30,330	30,560	29,490

Cal yr 1966: Total 136,572.4 Mean 374 Max 499 Min 0 Ac-ft 271,100
Wtr yr 1967: Total 162,983.0 Mean 447 Max 499 Min 0 Ac-ft 323,300

SACRAMENTO RIVER BASIN

11-4225. BEAR RIVER BELOW ROLLINS DAM, NEAR COLFAX, CALIF.

LOCATION.--Lat 39°07'53", long 120°57'29", in SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.22, T.15 N., R.9 E., on right bank 65 ft downstream from highway bridge, 0.5 mile downstream from Rollins Dam, and 2.2 miles north of Colfax.

DRAINAGE AREA.--105 sq mi.

RECORDS AVAILABLE.--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 September 1967. Prior to August 1964, published as Bear River near Colfax. Monthly discharge only for some periods, published in WSP 1315-A. Records for November and December 1911 include diversion to Bear River Canal and are not equivalent.

GAGE.--Graphic water-stage recorder and concrete control. Datum of gage is 1,927.41 ft above mean sea level, datum of 1929. Prior to Aug. 8, 1915, staff gages at several sites above diversion dam 0.3 mile upstream at different datums. Aug. 8, 1915, to June 30, 1917, staff gage 0.7 mile downstream at different datum. Nov. 1, 1949, to Sept. 30, 1953, at site 0.2 mile downstream at different datum.

AVERAGE DISCHARGE.--8 years (1912-13, 1915-16, 1950-53, 1964-67), 355 cfs (257,000 acre-ft per year), unadjusted.

EXTREMES.--Maximum discharge during year, 6,700 cfs Jan. 21 (gage height, 8.50 ft); minimum daily, 16 cfs Nov. 8, 1964-67: Maximum discharge, 6,700 cfs Jan. 21, 1967 (gage height, 8.50 ft); minimum daily, 0.5 cfs Nov. 17, 1964.

1912-13, 1915-17, 1949-53 (prior to regulation): Maximum discharge, 9,620 cfs Nov. 20, 1950 (gage height, 21.40 ft, site and datum then in use), from rating curve extended above 3,600 cfs on basis of slope-area measurement of maximum flow; no flow at times in 1912, 1952.

REMARKS.--Records good. Flow completely regulated by Rollins Reservoir (see sta. no. 4218) beginning Dec. 15, 1964. Bear River Canal (see sta. no. 4220) diverts above station.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	70	73	460	20	2,000	705	877	850	533	356	352	182
2	69	74	1,380	20	1,450	705	894	838	635	436	319	182
3	69	70	1,590	20	928	625	888	838	529	356	323	179
4	64	70	794	20	934	403	922	944	542	387	319	190
5	56	70	1,300	20	794	305	1,080	838	576	364	308	208
6	56	72	1,820	20	700	301	1,410	833	630	323	305	218
7	60	39	1,450	22	423	238	1,730	999	566	371	308	202
8	66	16	1,040	22	345	150	1,360	994	524	387	319	193
9	69	17	725	22	326	42	1,080	1,070	470	348	323	199
10	69	17	828	21	301	25	1,070	1,430	470	367	319	205
11	69	19	660	30	319	64	1,150	1,260	449	403	315	253
12	69	17	501	188	290	156	1,010	1,100	479	330	319	287
13	67	17	515	270	273	305	964	988	581	294	315	294
14	67	17	542	294	399	259	988	922	510	333	308	287
15	67	19	497	280	436	283	952	952	444	337	250	270
16	67	22	440	305	466	3,470	934	904	395	345	205	136
17	67	18	444	290	432	3,060	976	958	466	379	182	136
18	67	18	470	280	379	1,160	1,240	934	444	305	182	136
19	69	20	403	159	436	778	1,220	882	453	356	188	134
20	70	94	403	170	889	576	1,010	860	399	294	270	126
21	72	534	399	3,050	860	218	1,020	850	428	364	298	126
22	72	453	345	3,240	789	259	1,020	860	419	330	266	128
23	74	253	94	902	816	341	1,090	844	375	273	250	128
24	74	121	36	1,080	882	330	1,220	828	356	364	233	128
25	74	84	19	1,010	635	492	1,110	670	395	326	214	128
26	74	101	19	934	581	141	1,060	576	457	330	196	162
27	74	82	20	1,170	571	84	1,070	524	419	294	179	233
28	74	126	21	1,410	685	25	982	557	371	290	157	250
29	74	652	21	3,050	-----	34	904	767	407	326	141	250
30	77	575	21	2,520	-----	291	877	416	364	356	160	266
31	80	-----	21	3,050	-----	872	-----	720	-----	273	179	-----
Total	2,146	3,765	17,678	23,889	18,339	16,697	32,108	26,806	14,086	10,597	8,002	5,816
Mean	69.2	126	570	771	655	539	1,070	865	470	342	258	194
Max	80	652	1,820	3,240	2,000	3,470	1,730	1,430	635	436	352	294
Min	56	16	19	20	273	25	877	416	356	273	141	126
Ac-ft	4,260	7,470	35,060	47,380	36,370	33,120	63,690	53,170	27,940	21,020	15,870	11,540
Cal yr 1966: Total	89,020			244								
Wtr yr 1967: Total	179,929			493								
		Mean			Max 1,820	Min 13	Ac-ft 176,600					
					Max 3,470	Min 16	Ac-ft 356,900					

SACRAMENTO RIVER BASIN

915

11-4230. BEAR RIVER NEAR AUBURN, CALIF.

LOCATION.--Lat 39°01'00", long 121°06'21", in SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec.32, T.14 N., R.8 E., on right bank 2,000 ft downstream from bridge on State Highway 49, 2.6 miles upstream from Wolf Creek, and 8.0 miles north of Auburn.

DRAINAGE AREA.--140 sq mi.

RECORDS AVAILABLE.--December 1940 to September 1967 (discontinued) in reports of Geological Survey. Reports of California Department of Water Resources contain gage heights (high-water periods only) for 1922, 1925-28, 1929-33.

GAGE.--Graphic water-stage recorder. Altitude of gage is 1,230 ft (from topographic map). Prior to June 28, 1961, at site 2,200 ft upstream at different datums. June 28 to Nov. 21, 1964, staff gage at site 1,900 ft upstream at different datum. Nov. 22, 1961, to Mar. 31, 1964, at site 2,200 ft upstream at different datum.

AVERAGE DISCHARGE.--26 years, 284 cfs (205,600 acre-ft per year).

EXTREMES.--Maximum discharge during year, 10,200 cfs Jan. 21 (gage height, 16.60 ft), from rating curve extended above 7,400 cfs as explained below; minimum daily, 6.0 cfs Nov. 9.

1940-67: Maximum discharge, 19,700 cfs Dec. 22, 1955 (gage height, 16.56 ft, site and datum then in use), from rating curve extended above 7,400 cfs on basis of computation of flow over dam for the flood of Jan. 31, 1963; minimum, 0.1 cfs Nov. 9, 10, 1953.

REMARKS.--Records good. Natural flow of stream affected by inflow from Yuba River and American River basins. Flow regulated by Lake Combie (usable capacity, 7,840 acre-ft) and Rollins Reservoir (see sta. no. 4218) since December 1964. Several diversions upstream for power development and irrigation. Records of suspended-sediment loads for the water year 1967 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	10	10	604	30	2800	715	1230	920	550	275	248	100
2	11	10	1700	30	1880	720	1050	905	558	331	235	102
3	11	10	2130	30	1260	715	980	900	526	313	230	102
4	11	10	1030	30	1120	622	980	905	490	272	230	102
5	11	12	1900	30	1020	343	1100	880	510	262	224	108
6	11	20	2440	30	885	310	1520	875	590	240	220	115
7	11	13	1810	30	653	301	2090	905	530	224	218	115
8	11	7.2	1240	30	442	222	1650	1000	470	280	226	100
9	11	6.0	925	30	442	110	1260	1050	435	270	235	99
10	11	12	900	29	376	94	1220	1410	414	224	238	100
11	11	11	780	29	328	169	1420	1310	394	301	230	126
12	10	11	566	30	334	426	1230	1180	400	250	230	181
13	10	11	558	84	295	765	1090	1010	522	228	230	203
14	10	13	608	275	410	622	1110	925	518	205	228	205
15	10	19	554	286	542	463	1120	965	370	245	201	196
16	11	30	494	286	574	4090	1040	905	337	252	155	122
17	10	17	482	301	570	4220	955	945	388	242	115	76
18	10	12	510	278	518	1500	1510	915	376	265	106	69
19	10	23	446	222	470	950	1410	865	379	218	106	66
20	10	75	432	204	860	805	1250	835	352	255	134	60
21	10	58	432	4140	920	346	1170	815	325	224	212	59
22	10	484	418	5320	805	272	1170	830	376	260	199	60
23	11	364	212	1420	915	334	1250	805	278	230	181	62
24	10	197	76	1340	960	376	1460	790	272	224	166	63
25	10	129	54	1420	780	442	1310	658	278	248	152	63
26	10	102	28	1220	608	265	1220	538	334	252	132	68
27	10	107	30	1560	570	148	1250	482	367	232	110	112
28	10	100	30	1570	653	125	1160	498	307	220	100	178
29	10	581	31	4220	- - - -	86	1000	648	298	216	69	166
30	10	755	30	3460	- - - -	112	1000	463	316	272	83	185
31	10	- - - -	30	4200	- - - -	863	- - - -	534	- - - -	235	94	- - - -
Total	322	32132	21480	32164	21990	21531	37205	26666	12260	7765	5537	3363
Mean	10.4	107	693	1038	785	695	1240	860	409	250	179	112
Max	11	755	2440	5320	2800	4220	2090	1410	590	331	248	205
Min	10	6.0	28	29	295	86	955	463	272	205	69	59
Ac-ft	639	6370	42600	63800	43620	42710	73800	52890	24320	15400	10980	6670

Cal yr 1966: Total 88352.0 Mean 242 Max 2440 Min 3.8 Ac-ft 175200
Wtr yr 1967: Total 193496.2 Mean 530 Max 5320 Min 6.0 Ac-ft 383800

SACRAMENTO RIVER BASIN

11-4237. NEW CAMP FAR WEST RESERVOIR NEAR WHEATLAND, CALIF.

LOCATION.--Lat 39°03'00", long 121°18'52", in NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.21, T.14 N., R.6 E., in center of New Camp Far West Dam on the Bear River, 6.4 miles east of Wheatland, and 11.8 miles northeast of Sheridan.

DRAINAGE AREA.--283 sq mi.

RECORDS AVAILABLE.--October 1966 to September 1967. October 1963 to September 1966 in reports of California Department of Water Resources.

GAGE.--Graphic water-stage recorder. Datum of gage is at mean sea level (levels by South Sutter Water District).

EXTREMES.--Maximum contents during year, 116,900 acre-ft Jan. 21 (elevation, 305.74 ft); minimum, 11,500 acre-ft Oct. 31 to Nov. 5 (elevation, 214.03 ft).

REMARKS.--Reservoir is formed by an earthfill dam. Storage began Sept. 30, 1963. Usable capacity, 139,600 acre-ft between elevations 175.0 (bottom of lowest river outlet) and 316.3 ft (maximum spillway design). Dead storage, 2,200 acre-ft. Records including extremes represent total contents at 2400 hours.

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

CAPACITY TABLE (ELEVATION, IN FEET, AND CONTENTS, IN ACRE-FT)

200	7,000
210	9,800
220	14,000
230	19,400
240	25,800
250	34,200
260	44,000
270	55,500
280	69,500
290	85,600
300	104,400
320	151,000

Contents, in acre-feet, at 2400 hours, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	12,400	11,500	38,500	104,500	109,700	106,300	107,600	106,900	105,300	103,100	87,700	72,100
2	12,400	11,500	41,100	104,500	108,500	106,300	107,300	106,900	105,300	102,800	87,100	71,600
3	12,300	11,500	56,500	104,500	107,900	106,300	107,000	106,700	105,200	102,600	86,500	71,000
4	12,200	11,500	60,700	104,500	107,300	106,200	107,000	106,700	105,000	102,200	86,000	70,500
5	12,200	11,500	69,200	104,500	107,100	105,900	107,100	106,700	105,000	101,800	85,400	69,900
6	12,200	11,900	79,300	104,600	106,900	105,700	109,100	106,700	105,200	101,400	84,800	69,500
7	12,200	12,400	84,700	104,600	106,600	105,700	109,000	106,600	105,400	100,900	84,300	69,100
8	12,200	12,400	88,500	104,600	106,300	105,600	108,200	106,700	105,500	100,400	84,000	68,700
9	12,100	12,500	91,200	104,400	106,100	105,300	107,600	106,300	105,400	99,900	83,700	68,400
10	12,000	12,500	93,800	103,900	106,000	105,200	107,800	107,200	105,300	99,300	83,200	68,100
11	11,900	12,600	95,900	103,800	105,900	105,600	108,100	107,100	105,300	98,900	82,900	67,700
12	11,900	12,700	97,500	103,500	105,900	106,800	107,700	106,900	105,300	98,500	82,500	67,600
13	11,900	12,700	99,000	103,100	105,800	107,600	107,300	106,400	105,500	98,000	82,200	67,600
14	11,900	12,800	100,500	103,100	105,900	107,200	107,200	106,000	105,500	97,400	81,800	67,700
15	11,800	13,200	102,000	103,300	106,100	106,800	107,300	105,900	105,300	96,900	81,500	67,800
16	11,800	14,500	103,200	103,500	106,100	113,100	107,100	105,900	105,200	96,300	81,000	67,800
17	11,800	14,800	104,400	104,200	106,200	110,400	107,400	105,900	105,200	95,900	80,400	67,600
18	11,800	15,000	105,300	104,300	106,100	108,200	108,100	106,100	105,100	95,500	79,900	67,500
19	11,900	15,400	105,500	105,200	106,000	107,200	108,100	106,200	105,100	94,800	79,300	67,400
20	11,700	19,500	105,500	105,900	106,500	106,900	107,700	106,200	105,100	94,300	78,700	67,400
21	11,700	22,500	105,600	116,900	106,600	106,400	107,600	106,100	105,000	93,800	78,300	67,400
22	11,700	24,800	105,500	111,400	106,500	106,000	107,400	106,000	105,100	93,300	77,900	67,300
23	11,700	26,100	105,300	108,200	106,600	106,100	107,700	106,000	104,800	92,700	77,400	67,300
24	11,600	27,000	105,000	108,500	106,700	106,100	108,000	106,000	104,600	92,100	76,900	67,200
25	11,600	27,600	104,800	108,200	106,600	106,000	107,800	105,900	104,000	91,600	76,400	67,200
26	11,600	28,100	104,700	108,300	106,300	105,900	107,400	105,700	104,100	91,200	75,900	67,200
27	11,600	28,500	104,600	108,400	106,100	105,600	107,600	105,600	104,000	90,500	75,300	67,300
28	11,600	29,200	104,600	109,600	106,100	105,500	107,300	105,500	103,800	89,900	74,700	67,400
29	11,600	33,000	104,500	112,200	-----	105,500	107,100	105,700	103,500	89,400	74,000	67,700
30	11,500	35,800	104,500	111,200	-----	105,500	106,900	105,600	103,400	88,800	73,400	67,900
31	11,500	-----	104,500	111,900	-----	108,200	-----	105,300	-----	88,300	72,700	-----
(†)	214.14	251.58	300.07	303.45	300.82	301.76	301.16	300.39	299.43	291.43	281.98	278.85
(‡)	-900	+24,300	+68,700	+7,400	-5,300	+2,100	-1,300	-1,600	-1,900	-15,100	-15,600	-4,800
Max	12,400	35,800	105,600	116,900	109,700	113,100	109,100	107,200	105,500	103,100	87,700	72,100
Min	11,500	11,500	38,500	103,100	105,800	105,200	106,900	105,300	103,400	88,300	72,700	67,200

Calendar year 1966..... - Max - Min -
 Water year 1966-67..... + 55,500 Max 116,900 Min 11,500

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-feet.

SACRAMENTO RIVER BASIN

917

11-4240. BEAR RIVER NEAR WHEATLAND, CALIF.

LOCATION.--Lat 39°00'00", long 121°24'20", in SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.3, T.13 N., R.5 E., on right bank 100 ft downstream from bridge on U.S. Highway 99E, 1 mile southeast of Wheatland, and 6.5 miles downstream from Rock Creek.

DRAINAGE AREA.--292 sq mi.

RECORDS AVAILABLE.--October 1928 to September 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is 76.92 ft above mean sea level. Prior to July 17, 1929, staff gage at about same site at datum 4.58 ft higher. July 17, 1929, to Oct. 22, 1943, graphic water-stage recorder at several sites within 300 ft of present site at datum 4.58 ft higher. Oct. 23, 1943, to June 23, 1964, at site 100 ft upstream at datum 2.00 ft higher.

AVERAGE DISCHARGE.--38 years (1929-67), 423 cfs (306,200 acre-ft per year), adjusted for change in storage and diversions from New Camp Far West Reservoir since 1966.

EXTREMES.--Maximum discharge recorded during year, 16,500 cfs Jan. 22 (gage height, 12.21 ft); minimum daily, 3.8 cfs Oct. 22-24.

1928-67: Maximum discharge, 33,000 cfs Dec. 22, 1955 (gage height, 19.30 ft, site and datum then in use); maximum gage height, 20.83 ft Nov. 21, 1950, site and datum then in use; no flow at times.

REMARKS.--Records fair. Flow regulated by New Camp Far West Reservoir (usable capacity, 103,000 acre-ft), completed Sept. 30, 1963. Many diversions for irrigation and power. See REMARKS for station near Auburn. Records of chemical analyses for the water year 1967 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.9	5.9	65	82	5,600	704	1,610	1,130	368	34	69	17
2	4.9	5.1	94	81	3,670	728	1,600	1,040	363	37	60	18
3	5.3	5.1	70	80	2,450	746	1,370	981	381	37	56	19
4	5.9	5.9	47	80	1,600	723	1,250	939	337	34	71	18
5	5.9	4.9	89	74	1,370	589	1,300	918	302	32	79	15
6	5.1	29	85	70	1,200	435	1,890	925	333	33	79	16
7	5.1	56	54	73	1,020	381	3,540	974	333	44	83	16
8	5.3	41	45	74	782	354	2,780	981	354	59	69	16
9	5.3	35	40	129	672	288	1,870	1,050	333	62	13	15
10	4.9	9.2	39	278	616	217	1,610	1,240	288	60	18	12
11	5.6	11	39	271	540	252	2,160	1,450	266	52	18	11
12	5.6	20	33	271	512	464	1,890	1,300	249	49	18	9.4
13	5.1	32	32	271	480	1,300	1,580	1,130	288	48	20	11
14	5.6	35	31	271	460	1,540	1,500	939	381	44	18	9.9
15	4.9	39	31	271	562	1,130	1,590	818	350	47	13	9.4
16	5.3	33	31	230	638	3,490	1,470	780	252	49	11	12
17	5.1	28	31	29	672	7,030	1,300	680	202	49	13	10
18	4.9	25	170	31	655	3,670	2,100	270	202	48	13	11
19	5.3	30	480	139	600	1,780	2,100	430	160	49	18	11
20	4.9	54	505	264	672	1,110	1,990	430	132	48	22	9.4
21	4.0	37	500	3,910	848	848	1,730	410	93	52	17	9.4
22	3.8	36	520	12,200	878	611	1,620	410	60	59	13	8.9
23	3.8	29	445	4,320	990	584	1,640	390	48	77	10	9.4
24	3.8	27	316	2,340	918	655	2,010	358	44	73	11	9.4
25	5.3	25	208	2,610	974	600	1,920	325	37	62	15	9.4
26	4.7	24	152	2,010	806	584	1,660	235	31	62	17	8.9
27	5.3	26	114	2,670	694	435	1,660	155	31	58	17	8.9
28	5.9	40	93	3,130	660	341	1,630	115	32	60	13	8.9
29	5.1	54	90	6,090	-----	325	1,340	108	50	69	13	8.5
30	5.6	33	94	6,320	-----	270	1,210	198	36	83	13	8.5
31	5.1	-----	84	6,730	-----	604	-----	257	-----	75	13	-----
Total	157.3	835.1	4,637	55,403	31,439	32,793	52,920	21,366	6,341	1,645	913	356.3
Mean	5.07	27.8	150	1,787	1,123	1,058	1,764	689	211	53.1	29.5	11.9
Max	5.9	56	520	12,200	5,600	7,030	3,540	1,450	381	83	83	19
Min	3.8	4.9	31	29	460	217	1,210	108	31	32	10	8.5
Ac-ft	312	1,660	9,200	109,700	62,360	65,040	105,000	42,380	12,580	3,260	1,810	707
(†)	1,300	+24,300	+68,700	+7,400	-5,800	+2,100	-1,300	-1,600	-1,900	-15,100	-15,600	-4,800
(††)	2,210	398	0	0	0	0	0	16,790	17,250	27,780	24,750	11,660
Mean †	19.8	443	1,267	1,904	1,018	1,092	1,743	936	469	259	178	127
Ac-ft†	1,220	26,360	77,900	117,100	56,560	67,140	103,700	57,570	27,930	15,940	10,960	7,570

Calendar year 1966: Total 57,207.4 Mean 157 Max 828 Min 3.8 Ac-ft 113,500 Mean † 372 Ac-ft † 269,300
 Water year 1966-67: Total 208,805.7 Mean 572 Max 12,200 Min 3.8 Ac-ft 414,200 Mean † 787 Ac-ft † 570,000

† Change in contents, in acre-feet, in New Camp Far West Reservoir.

†† Diversion, in acre-feet, to Camp Far West North and South Canals, and South Sutter Conveyance Canal.

‡ Adjusted for diversions and change in contents in New Camp Far West Reservoir.

Note.--When inflow to the reservoir is small and other quantities are large, discordant figures of net runoff may appear. Records of evaporation from New Camp Far West Reservoir are not available.

SACRAMENTO RIVER BASIN

11-4250. FEATHER RIVER AT NICOLAUS, CALIF.

LOCATION.--Lat 38°54'00", long 121°35'00", T.12 N., R.3 E., on left bank at highway bridge at Nicolaus, 2.9 miles downstream from Bear River.

DRAINAGE AREA.--5,921 sq mi.

RECORDS AVAILABLE.--June 1921 to December 1942 (low-water periods only), April 1943 to September 1967.

GAGE.--Digital water-stage recorder. Gage is set to datum of Corps of Engineers which is 3.30 ft below mean sea level. Prior to November 1931, graphic water-stage recorder on middle fender pier of bridge 0.3 mile upstream at same datum. December 1931 to April 1, 1965, graphic water-stage recorder at same site and datum. Since June 1960, auxiliary graphic water-stage recorder at various sites near highway bridge for low water periods.

AVERAGE DISCHARGE.--24 years (1943-67), 8,007 cfs (5,797,000 acre-ft per year).

EXTREMES.--Maximum discharge during year, 96,600 cfs Jan. 31 to Feb. 1 (gage height, 44.04 ft); minimum daily, 560 cfs Oct. 28.

1943-67: Maximum discharge, 357,000 cfs Dec. 23, 1955; maximum gage height, 51.60 ft Dec. 23, 1955.

1921-67: Minimum discharge, no flow Aug. 2-18, 1924, July 11-22, 24, 26, Aug. 1, 1931.

REMARKS.--Records fair. Flow partly regulated by reservoirs and powerplants. Diversions for irrigation of about 87,000 acres between stations at Oroville and at Nicolaus. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1,060	790	16,100	5,890	90,200	9,100	20,100	13,700	23,000	11,400	1,570	2,090
2	942	910	18,200	6,100	72,300	9,240	18,700	13,300	19,400	11,100	1,890	2,070
3	950	966	32,400	5,830	37,200	9,140	16,800	12,900	18,200	10,500	1,730	2,190
4	958	1,130	31,100	5,720	30,000	9,080	15,500	13,000	17,400	9,600	1,690	2,180
5	982	1,130	29,000	5,960	23,000	8,580	14,700	13,300	17,500	8,160	1,600	2,080
6	942	1,140	39,000	5,760	20,000	8,060	17,100	14,500	18,500	7,200	1,580	2,050
7	809	1,520	37,000	5,720	17,500	7,780	27,700	15,500	19,500	6,850	1,310	2,000
8	823	1,980	23,000	5,750	15,300	7,800	25,300	16,900	19,500	6,160	1,250	2,060
9	854	1,760	16,000	5,730	15,000	7,700	19,500	19,900	19,300	4,840	1,290	2,160
10	862	1,660	14,000	5,700	14,000	7,570	17,800	23,500	19,400	4,490	1,270	2,020
11	862	1,610	13,000	5,600	13,400	8,560	18,200	25,500	19,300	4,410	1,180	2,150
12	926	1,620	12,000	5,510	13,200	11,400	19,000	23,100	18,900	4,440	1,330	2,120
13	846	1,700	11,000	5,350	13,000	13,800	16,500	20,600	19,700	4,310	1,470	2,060
14	753	1,760	10,000	5,490	13,300	13,900	15,900	18,500	20,200	4,140	1,450	2,080
15	767	1,760	9,400	5,590	13,300	11,900	15,400	17,800	19,200	4,020	1,440	2,140
16	788	3,020	9,000	5,460	12,500	15,600	14,800	19,300	19,100	3,560	1,490	2,220
17	802	7,920	8,000	5,280	12,000	50,400	13,800	22,500	19,500	3,200	1,490	2,340
18	846	4,490	7,800	5,080	11,700	63,400	17,700	25,300	20,300	3,050	1,640	2,510
19	830	3,100	7,400	4,900	11,300	55,200	18,000	27,000	20,800	3,450	1,700	2,610
20	823	5,030	7,300	4,740	11,000	48,000	17,800	28,000	20,900	3,100	1,800	2,550
21	767	14,700	7,700	14,600	10,900	38,200	16,500	29,800	19,500	3,200	1,880	2,480
22	690	13,200	8,100	72,500	10,700	31,500	15,600	32,500	18,200	2,700	1,910	2,660
23	606	10,500	8,000	76,100	10,400	28,700	15,000	34,500	17,800	2,100	1,780	2,670
24	606	7,290	7,700	45,000	10,200	30,000	16,000	35,800	15,900	1,900	1,850	2,560
25	606	5,620	7,500	35,000	10,200	28,600	18,200	37,400	14,500	1,800	1,770	2,550
26	578	4,200	6,700	31,000	10,200	24,800	16,300	37,100	14,300	2,500	1,580	2,670
27	571	3,360	6,400	28,000	9,620	21,400	15,800	35,400	14,300	2,410	1,630	2,680
28	560	3,120	6,300	32,700	9,200	18,500	16,000	32,600	13,300	2,250	1,710	2,700
29	680	5,320	6,450	51,700	-----	17,000	14,400	30,300	12,400	2,190	1,850	2,760
30	720	20,800	6,400	82,200	-----	15,900	14,000	27,900	11,800	1,910	2,050	2,410
31	750	-----	6,130	93,200	-----	16,300	-----	25,000	-----	1,620	2,060	-----
TOTAL	24,559	133,106	428,080	673,160	540,620	647,110	518,100	742,400	541,600	142,580	50,240	69,820
MEAN	792	4,437	13,810	21,710	19,310	20,870	17,270	23,950	18,050	4,599	1,621	2,327
MAX	1,060	20,800	39,000	93,200	90,200	63,400	27,700	37,400	23,000	11,400	2,060	2,760
MIN	560	790	6,130	4,740	9,200	7,570	13,800	12,900	11,800	1,620	1,180	2,000
AC-FT	48,710	264,000	849,100	1,335M	1,072M	1,284M	1,028M	1,473M	1,074M	282,800	99,650	138,500

CAL YR 1966: TOTAL 1,814,615 MEAN 4,972 MAX 39,000 MIN 104 AC-FT 3,599,000
WAT YR 1967: TOTAL 4,511,375 MEAN 12,360 MAX 93,200 MIN 560 AC-FT 8,948,000

SACRAMENTO RIVER BASIN

919

11-4255. SACRAMENTO RIVER AT VERONA, CALIF.

LOCATION.--Lat 38°46'50", long 121°36'10", in SE¼ sec.23, T.11 N., R.3 E., on left bank 0.8 mile southeast of Verona, 1 mile downstream from Feather River, 6.2 miles east of Knights Landing, and at mile 19.6 upstream from Sacramento.

DRAINAGE AREA.--21,275 sq mi.

RECORDS AVAILABLE.--May 1926 to September 1929 (low-water periods only), October 1929 to September 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is 0.06 ft below datum of Corps of Engineers which is 2.94 ft below mean sea level. Auxiliary graphic water-stage recorder 16 miles downstream from base gage since Oct. 1, 1944, at datum of Corps of Engineers. Prior to Oct. 1, 1944, auxiliary graphic water-stage recorder at site 19.2 miles downstream at datum 0.12 ft above mean sea level. Prior to May 6, 1965, graphic water-stage recorder at same site and datum. May 7, 1965, to July 17, 1967, digital water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--38 years (1929-67), 18,080 cfs (13,090,000 acre-ft per year).

EXTREMES.--Maximum discharge during year, 67,100 cfs Feb. 1 (gage height, 36.88 ft); minimum daily, 8,090 cfs Oct. 29.

1926-67: Maximum discharge, 79,200 cfs Mar. 1, 1940 (gage height, 41.20 ft); minimum daily, 304 cfs July 23, 24, 1931; maximum reverse flow, 16,800 cfs Dec. 4, 1950, backwater from American River.

1934-67: Maximum combined discharge of Sacramento River at Verona and Fremont weir, about 322,000 cfs Dec. 25, 1964.

REMARKS.--Records excellent. Flow regulated by Shasta Lake beginning Dec. 30, 1943, and several other reservoirs and powerplants above station, and bypassing for flood control. Many diversions above station for irrigation. When discharge exceeds about 55,000 cfs, flow begins over Fremont weir (just upstream) into Yolo bypass (see sta. no. 4530). Elevation of crest of Fremont weir is 33.5 ft (datum of Corps of Engineers).

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	8,480	8,490	36,700	21,300	67,000	24,200	33,600	46,600	45,200	23,700	12,100	13,700
2	8,520	8,600	37,300	20,400	65,700	24,000	35,300	44,800	43,400	23,200	12,400	13,800
3	8,470	8,660	44,000	19,400	63,900	23,500	35,500	42,800	41,100	22,500	12,300	13,800
4	8,560	8,860	49,800	18,600	62,100	22,900	34,100	40,600	39,500	21,800	12,200	14,000
5	8,760	9,010	52,200	18,600	60,500	22,200	32,400	38,700	38,400	20,600	12,300	14,300
6	8,850	9,380	57,200	18,000	59,300	21,300	32,100	37,500	38,300	19,000	12,400	14,400
7	8,760	9,860	58,700	17,300	58,300	20,500	38,000	36,200	38,500	18,100	12,200	14,600
8	8,760	11,000	57,600	16,500	57,400	20,200	42,800	35,800	38,500	17,400	12,100	14,800
9	8,720	11,500	55,600	15,900	56,500	19,600	43,600	36,900	38,000	15,700	12,100	15,300
10	8,740	11,100	54,700	15,700	55,300	19,100	42,800	39,100	37,500	14,900	12,100	15,300
11	8,810	10,800	54,200	15,500	53,400	19,200	42,500	41,400	37,100	14,600	12,000	15,600
12	8,870	10,700	53,800	15,100	51,200	21,900	43,000	42,300	36,700	14,900	12,000	16,000
13	8,830	10,700	52,700	14,600	48,300	26,000	42,300	41,200	36,700	14,800	12,400	16,500
14	8,640	10,900	50,500	14,300	45,600	29,100	40,900	39,100	37,200	14,700	12,700	16,600
15	8,590	11,500	47,500	14,300	43,300	28,700	40,100	37,800	36,500	14,600	12,600	16,600
16	8,620	12,500	44,500	14,100	40,900	29,300	40,200	37,500	35,900	14,400	12,600	16,700
17	8,610	17,800	40,900	13,800	38,400	44,100	39,600	38,900	35,500	13,700	12,400	16,800
18	8,640	18,600	37,100	13,500	36,300	55,500	40,200	41,000	35,600	13,400	12,300	16,800
19	8,660	16,000	34,200	13,200	34,700	56,900	42,500	43,100	35,800	13,600	12,400	17,000
20	8,680	16,000	32,300	13,200	33,100	56,100	44,600	44,700	35,800	13,300	12,600	17,100
21	8,630	28,400	31,000	18,500	31,800	54,400	46,300	46,200	35,200	13,100	12,700	16,500
22	8,460	34,500	30,500	49,200	30,500	51,700	47,400	48,000	33,800	13,100	12,700	16,200
23	8,360	33,400	29,700	60,700	29,000	49,100	47,400	49,800	32,900	13,100	12,600	15,900
24	8,360	29,500	28,800	59,900	27,500	47,700	47,200	51,400	31,200	12,700	12,500	15,700
25	8,300	25,500	28,100	59,300	26,600	46,800	47,900	52,700	29,000	12,700	12,500	15,400
26	8,280	23,000	26,900	57,900	26,200	44,600	48,500	53,400	27,800	12,700	12,600	15,200
27	8,190	21,300	25,600	57,200	25,500	41,300	48,500	53,600	27,500	13,000	12,500	15,100
28	8,140	20,500	24,500	57,900	24,800	37,600	48,600	52,800	26,700	12,700	13,000	14,900
29	8,090	21,500	24,200	60,900	-----	34,800	48,400	51,700	25,600	12,500	13,300	14,800
30	8,150	33,100	23,500	64,200	-----	32,900	47,900	49,800	24,500	12,500	13,300	14,300
31	8,250	-----	22,600	66,300	-----	31,900	-----	47,600	-----	12,200	13,600	-----
TOTAL	264,780	502,660	1,246.9M	935,300	1,253.1M	1,057.1M	1,264.2M	1,363.0M	1,055.4M	479,200	387,500	463,700
MEAN	8,541	16,760	40,220	30,170	44,750	34,100	42,140	43,970	35,180	15,460	12,500	15,460
MAX	8,870	34,500	58,700	66,300	67,000	56,900	48,600	53,600	45,200	23,700	13,600	17,100
MIN	8,090	8,490	22,600	13,200	24,800	19,100	32,100	35,800	24,500	12,200	12,000	13,700
AC-FT	525,200	997,000	2,473M	1,855M	2,485M	2,097M	2,508M	2,703M	2,093M	950,500	768,600	919,700

CAL YR 1966: TOTAL 6,629,600 MEAN 18,160 MAX 58,700 MIN 6,760 AC-FT 13,150,000
WAT YR 1967: TOTAL 10,272,840 MEAN 28,140 MAX 67,000 MIN 8,090 AC-FT 20,380,000

SACRAMENTO RIVER BASIN

11-4260. SACRAMENTO WEIR SPILL TO YOLO BYPASS, NEAR SACRAMENTO, CALIF.

LOCATION.--Lat 38°36'25", long 121°33'15", on right bank 100 ft upstream and 100 ft downstream from weir, 3.2 miles upstream from American River, 4 miles northwest of Sacramento, and at mile 4.2 upstream from Sacramento.

RECORDS AVAILABLE.--October 1939 to September 1967. Published as Sacramento weir near Sacramento 1939-61. Monthly discharge only for water years 1940-51, published in WSP 1735. 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.--Graphic water-stage recorders and concrete weir crest. Gage is set to datum of Corps of Engineers. October 1939 to September 1942, October 1959 to September 1963, graphic water-stage recorder or staff gage at downstream end of weir. October 1942 to September 1959, graphic water-stage recorder on left bank at Sacramento River opposite center of weir at same datum. Since February 1963, graphic water-stage recorders on right bank 100 ft upstream and 100 ft downstream from ends of weir.

AVERAGE DISCHARGE.--28 years, 225 cfs (162,900 acre-ft per year).

EXTREMES.--Maximum discharge during year, 4,730 cfs Jan. 31 (gage height, 31.27 ft); no flow for several months.

1926-67: Maximum discharge, 118,000 cfs Mar. 26, 1928; maximum gage height, 33.01 ft Dec. 23, 1955; no flow during all or most of each year.

REMARKS.--Crest of weir is at elevation 25.0 ft and top of moveable gates at 31.0 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. Since February 1963, stage is obtained by averaging the stage obtained at sites above and below the weir.

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

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	0	3,190	0						
2			0	0	387	0						
3			0	0	734	0						
4			0	0	566	0						
5			0	0	376	0						
6			170	0	295	0						
7			533	0	228	0						
8			725	0	149	0						
9			667	0	64	0						
10			264	0	2.4	0						
11			86	0	0	0						
12			24	0	0	0						
13			0	0	0	0						
14			0	0	0	0						
15			0	0	0	0						
16			0	0	0	0						
17			0	0	0	34						
18			0	0	0	686						
19			0	0	0	696						
20			0	0	0	634						
21			0	0	0	341						
22			0	0	0	31						
23			0	218	0	0						
24			0	371	0	0						
25			0	360	0	0						
26			0	251	0	0						
27			0	195	0	0						
28			0	542	0	0						
29			0	806	---	0						
30			0	1,430	---	0						
31		-----	0	4,100	---	0	-----		-----			-----
Total	0	0	2,469	8,273	6,491.4	2,422	0	0	0	0	0	0
Mean	0	0	79.6	267	232	78.1	0	0	0	0	0	0
Max	0	0	725	4,100	3,190	696	0	0	0	0	0	0
Min	0	0	0	0	0	0	0	0	0	0	0	0
Ac-ft	0	0	4,900	16,410	12,980	4,800	0	0	0	0	0	0
Cal yr 1966: Total	2,469	Mean	6.76	Max	725	Min	0	Ac-ft	4,900			
Wtr yr 1967: Total	19,655.4	Mean	53.9	Max	4,100	Min	0	Ac-ft	38,990			

SACRAMENTO RIVER BASIN

921

11-4261.1. ONION CREEK TRIBUTARY NO. 3 NEAR SODA SPRINGS, CALIF.

LOCATION.--Lat 39°17'04", long 120°21'20", in E1/4NW1/4 sec.1, T.16 N., R.14 E., on right bank 0.8 mile upstream from Onion Creek Campground and 3.0 miles southeast of Soda Springs.

DRAINAGE AREA.--0.65 sq mi.

RECORDS AVAILABLE.--October 1958 to September 1964, October 1965 to September 1967 (discontinued).

GAGE.--Graphic water-stage recorder and 120° sharp-crested V-notch weir. Altitude of gage is 6,300 ft (from topographic map).

AVERAGE DISCHARGE.--8 years (1958-64, 1965-67), 1.41 cfs (1,020 acre-ft per year).

EXTREMES.--Maximum discharge during year, 32.1 cfs June 19 (gage height, 2.22 ft); minimum daily, 0.03 cfs Oct. 1 to Nov. 5.

1958-64, 1965-67: Maximum discharge, 242 cfs Jan. 31, 1963 (gage height, 5.00 ft); minimum daily, 0.01 cfs for many days in 1958-62, 1964.

REMARKS.--Records excellent. This station is operated in connection with studies to develop and test methods of managing forest and other lands for improved water yield.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.03	0.03	0.74	0.35	0.95	1.75	1.75	0.82	8.46	7.98	0.74	0.14
2	.03	.03	.67	.32	.82	1.95	1.68	1.07	7.22	7.22	.74	.13
3	.03	.03	.67	.35	.78	2.08	1.62	1.51	7.52	6.50	.71	.14
4	.03	.03	.56	.35	.74	1.94	1.56	1.39	8.78	5.83	.67	.20
5	.03	.03	1.02	.32	.78	1.88	1.45	1.29	10.5	5.21	.64	.17
6	.03	.04	.78	.30	.86	1.94	1.39	1.67	10.7	4.62	.60	.14
7	.03	.05	.60	.30	.95	2.01	1.34	2.82	11.1	4.08	.57	.14
8	.03	.06	.51	.30	1.04	2.22	1.31	4.35	13.2	3.67	.57	.13
9	.03	.05	.45	.30	1.09	2.37	1.34	5.33	13.6	3.29	.54	.11
10	.03	.05	.45	.30	1.23	2.37	1.39	3.29	13.7	2.94	.54	.11
11	.03	.08	.45	.32	1.34	2.30	1.23	2.68	13.6	2.60	.51	.10
12	.03	.14	.43	.30	1.45	2.22	1.21	2.45	13.1	2.37	.48	.10
13	.03	.14	.42	.32	1.51	2.15	1.29	2.60	14.0	2.15	.48	.09
14	.03	.14	.40	.35	1.68	2.01	1.29	3.50	13.7	1.94	.45	.09
15	.03	.32	.40	.37	1.56	1.96	1.18	6.12	14.4	1.81	.48	.08
16	.03	.80	.40	.40	1.51	6.58	1.13	9.90	16.0	1.68	.48	.08
17	.03	.40	.40	.37	1.51	7.88	1.09	12.4	17.0	1.51	.34	.12
18	.03	.22	.40	.37	1.51	4.97	1.04	12.2	18.3	1.39	.26	.18
19	.03	.28	.40	.37	1.51	3.77	1.04	13.8	19.2	1.23	.24	.10
20	.03	1.05	.42	.37	1.51	3.11	.99	19.7	17.8	1.13	.22	.09
21	.03	.32	.42	.37	1.51	2.77	.95	22.2	16.6	1.09	.20	.08
22	.03	.30	.42	.40	1.51	2.68	.91	22.6	15.0	.99	.20	.08
23	.03	.26	.42	.40	1.56	2.60	.91	22.1	13.8	.95	.22	.08
24	.03	.22	.40	.40	1.56	2.45	.86	21.5	13.2	.86	.22	.08
25	.03	.22	.40	.37	1.51	2.30	.86	20.1	12.7	.82	.22	.08
26	.03	.22	.37	.40	1.45	2.22	.86	19.2	11.9	.74	.22	.07
27	.03	.24	.37	.64	1.51	2.08	.82	17.8	10.9	.74	.18	.06
28	.03	2.03	.35	.67	1.62	2.08	.78	16.3	10.4	.71	.17	.06
29	.03	2.16	.35	.90	-----	1.94	.78	15.1	9.46	.67	.15	.06
30	.03	.95	.35	1.04	-----	1.88	.74	13.1	8.78	.67	.15	.06
31	.03	-----	.35	1.13	-----	1.81	-----	10.4	-----	.74	.14	-----
Total	0.93	10.89	14.77	13.45	36.56	82.27	34.79	308.29	384.62	78.13	12.33	3.15
Mean	0.030	0.363	0.476	0.434	1.31	2.65	1.16	9.94	12.8	2.52	0.398	0.105
Max	0.03	2.16	1.02	1.13	1.68	7.88	1.75	22.6	19.2	7.98	0.74	0.20
Min	0.03	0.03	0.35	0.30	0.74	1.75	0.74	0.82	7.22	0.67	0.14	0.06
Ac-ft	1.8	21.6	29.3	26.7	72.5	163	69.0	611	763	155	24.5	6.2

Cal yr 1966: Total 359.42 Mean 0.985 Max 6.87 Min 0.02 Ac-ft 713
Wtr yr 1967: Total 980.18 Mean 2.69 Max 22.5 Min 0.03 Ac-ft 1940

SACRAMENTO RIVER BASIN

11-4261.3. ONION CREEK TRIBUTARY NO. 2 NEAR SODA SPRINGS, CALIF.

LOCATION.--Lat 39°16'34", long 120°21'57", in SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.2, T.16 N., R.14 E., on right bank 0.25 mile above junction with Onion Creek and 3.4 miles southeast of Soda Springs.

DRAINAGE AREA.--0.48 sq mi.

RECORDS AVAILABLE.--October 1957 to September 1964, October 1965 to September 1967 (discontinued).

GAGE.--Graphic water-stage recorder and 120° sharp-crested V-notch weir. Altitude of gage is 6,160 ft (from topographic map).

AVERAGE DISCHARGE.--9 years (1957-64, 1965-67), 1.23 cfs (890 acre-ft per year).

EXTREMES.--Maximum discharge during year, 30.6 cfs June 20 (gage height, 2.18 ft); minimum daily, 0.006 cfs Nov. 5.

1958-64, 1965-67: Maximum discharge, 116 cfs Jan. 31, 1963 (gage height, 3.72 ft); no flow for many days in 1957-62.

REMARKS.--Records excellent. This station is operated in connection with studies to develop and test methods of managing forests and other lands for improved water yield.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.01	0.01	0.56	0.35	1.45	1.45	1.90	0.86	6.37	3.70	0.13	0.02
2	.01	.01	.59	.35	1.13	1.62	1.85	1.04	5.21	3.20	.11	.02
3	.01	.008	.61	.35	1.04	1.62	1.75	1.39	5.40	2.72	.11	.02
4	.008	.008	.40	.37	.99	1.45	1.68	1.45	6.98	2.40	.10	.02
5	.01	.006	1.05	.37	.99	1.39	1.55	1.39	9.82	1.95	.09	.01
6	.01	.008	.71	.35	1.04	1.45	1.50	1.81	9.62	1.70	.08	.02
7	.01	.01	.51	.35	1.13	1.56	1.45	3.38	10.2	1.45	.08	.01
8	.01	.03	.42	.35	1.13	1.75	1.35	5.58	10.2	1.29	.07	.01
9	.01	.02	.37	.35	1.13	1.81	1.37	5.58	13.2	1.13	.07	.01
10	.01	.02	.40	.35	1.39	1.75	1.40	4.08	11.8	.99	.06	.01
11	.008	.03	.42	.37	1.56	1.62	1.36	3.11	11.2	.91	.06	.02
12	.008	.03	.45	.37	1.75	1.51	1.32	2.68	10.8	.78	.06	.02
13	.008	.03	.45	.42	1.88	1.45	1.45	2.94	11.6	.71	.05	.02
14	.008	.03	.42	.48	1.75	1.34	1.39	4.18	10.8	.64	.05	.02
15	.01	.06	.40	.57	1.39	1.44	1.29	7.14	10.9	.60	.05	.02
16	.01	.11	.42	.64	1.29	1.32	1.23	11.0	12.4	.57	.05	.02
17	.01	.05	.45	.60	1.29	9.05	1.23	13.7	13.0	.51	.04	.02
18	.008	.05	.48	.54	1.34	5.45	1.18	13.2	13.8	.45	.04	.05
19	.008	.06	.51	.51	1.34	3.87	1.13	13.8	12.4	.40	.04	.03
20	.01	.34	.54	.51	1.29	3.29	1.09	17.5	14.7	.37	.04	.02
21	.008	.13	.51	.51	1.23	3.20	1.04	20.3	11.4	.35	.03	.02
22	.008	.08	.51	.54	1.29	3.29	1.04	20.7	10.4	.30	.03	.03
23	.008	.05	.48	.48	1.29	3.11	.99	19.5	9.13	.28	.03	.03
24	.01	.05	.45	.48	1.29	2.85	.99	19.8	8.18	.26	.03	.02
25	.01	.05	.45	.48	1.23	2.68	.95	17.0	7.97	.24	.03	.01
26	.01	.05	.42	.62	1.18	2.52	.91	16.0	7.56	.22	.03	.01
27	.02	.05	.40	1.29	1.23	2.37	.91	14.9	6.55	.20	.03	.01
28	.01	1.86	.40	1.18	1.39	2.30	.86	13.8	5.90	.18	.03	.02
29	.01	2.86	.37	3.10	- - - -	2.08	.82	12.5	5.18	.17	.02	.02
30	.01	.61	.37	2.57	- - - -	2.05	.82	10.4	4.48	.15	.02	.02
31	.01	- - - -	.37	2.01	- - - -	2.00	- - - -	8.46	- - - -	.14	.02	- - - -
Total	0.300	6.710	14.89	21.81	36.43	74.64	37.80	288.17	287.15	289.6	1.68	0.58
Mean	0.010	0.224	0.480	0.704	1.30	2.41	1.26	9.30	9.57	0.934	0.054	0.019
Max	0.02	2.86	1.05	3.10	1.88	9.05	1.90	20.7	14.7	3.70	0.13	0.05
Min	0.008	0.006	0.37	0.35	0.99	1.32	0.82	0.86	4.48	0.14	0.02	0.01
Ac-ft	0.6	13.3	29.5	43.3	72.3	148	75.0	572	570	57.4	3.3	1.2
Cal yr 1966: Total	276.763											
Wtr yr 1967: Total	799.120											
	Mean	0.758	Max	6.74	Min	0.003	Ac-ft	549				
	Mean	2.19	Max	20.7	Min	0.006	Ac-ft	1,590				

SACRAMENTO RIVER BASIN

923

11-4261.4. ONION CREEK TRIBUTARY NO. 1 NEAR SODA SPRINGS, CALIF.

LOCATION.--Lat 39°16'30", long 120°21'58", in SE $\frac{1}{4}$ sec.2, T.16 N., R.14 E., on right bank 0.25 mile west of Onion Creek Campground and 3.4 miles southeast of Soda Springs.

DRAINAGE AREA.--0.19 sq mi.

RECORDS AVAILABLE.--October 1957 to September 1964, October 1965 to September 1967 (discontinued).

GAGE.--Graphic water-stage recorder and 120° sharp-crested V-notch weir. Altitude of gage is 6,200 ft (from topographic map).

AVERAGE DISCHARGE.--9 years (1957-64, 1965-67), 0.421 cfs (305 acre-ft per year).

EXTREMES.--Maximum discharge during year, 9.99 cfs June 19 (gage height, 1.39 ft); minimum daily, 0.008 cfs for many days in October and November.
1957-64, 1965-67: Maximum discharge, 54.6 cfs Jan. 31, 1963 (gage height, 2.75 ft); no flow for many days in 1959-62.

REMARKS.--Records excellent. No regulation or diversion. This station is operated in connection with studies to develop and test methods of managing forests and other lands for improved water yield.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.008	0.008	0.35	0.06	0.40	0.32	0.60	0.30	2.30	2.08	0.07	0.01
2	.008	.008	.32	.06	.30	.35	.57	.35	1.94	1.81	.07	.01
3	.008	.008	.37	.06	.28	.37	.54	.45	1.94	1.45	.07	.02
4	.008	.008	.26	.05	.26	.35	.54	.48	2.45	1.18	.06	.02
5	.008	.008	.52	.06	.26	.32	.51	.42	3.87	.99	.06	.02
6	.008	.01	.35	.05	.24	.32	.48	.54	3.77	.86	.06	.01
7	.008	.02	.24	.05	.26	.32	.48	.91	3.67	.74	.07	.01
8	.008	.05	.18	.05	.26	.37	.48	1.45	4.62	.64	.07	.01
9	.008	.04	.15	.05	.26	.40	.48	1.81	4.62	.57	.07	.01
10	.01	.05	.14	.05	.28	.40	.51	1.29	4.40	.51	.06	.01
11	.01	.05	.15	.05	.30	.37	.45	.99	4.08	.45	.06	.01
12	.01	.05	.11	.06	.35	.35	.45	.86	4.08	.40	.06	.01
13	.01	.05	.11	.06	.40	.32	.45	.86	4.40	.32	.06	.01
14	.01	.05	.10	.07	.42	.30	.45	1.13	4.29	.32	.06	.01
15	.008	.07	.09	.08	.37	.32	.42	1.81	4.40	.28	.06	.01
16	.01	.09	.09	.09	.35	3.65	.40	2.94	4.85	.26	.06	.01
17	.008	.02	.09	.09	.32	3.59	.40	3.87	5.58	.22	.05	.01
18	.008	.01	.09	.08	.32	2.08	.37	3.87	5.83	.20	.03	.03
19	.008	.03	.09	.08	.32	1.51	.37	4.18	6.10	.18	.03	.02
20	.008	.32	.09	.08	.30	1.23	.35	5.21	5.71	.17	.03	.01
21	.008	.10	.09	.09	.30	1.09	.35	6.23	5.45	.15	.02	.01
22	.008	.03	.08	.08	.30	1.04	.35	5.64	4.40	.14	.02	.01
23	.008	.02	.08	.07	.30	1.04	.32	6.23	3.97	.14	.02	.01
24	.008	.02	.08	.08	.30	.99	.32	6.10	3.97	.13	.03	.01
25	.008	.02	.07	.08	.28	.95	.32	5.45	3.97	.11	.02	.01
26	.008	.02	.07	.15	.28	.86	.30	5.45	3.67	.10	.02	.01
27	.008	.02	.08	.37	.28	.78	.30	5.09	3.20	.09	.02	.01
28	.008	.74	.07	.28	.30	.78	.30	4.62	2.94	.08	.02	.01
29	.008	.94	.06	.74	- - - -	.74	.30	4.74	2.68	.08	.02	.01
30	.008	.35	.06	.64	- - - -	.71	.30	3.58	2.45	.08	.02	.02
31	.008	- - - -	.06	.54	- - - -	.64	- - - -	2.94	- - - -	.08	.01	- - - -
Total	0.260	3.210	4.79	4.40	8.59	26.86	12.46	90.79	119.60	14.81	1.38	0.37
Mean	0.008	0.107	0.155	0.142	0.307	0.865	0.415	2.93	3.99	0.478	0.045	0.012
Max	0.01	0.94	0.62	0.74	0.42	3.65	0.60	6.64	6.10	2.08	0.07	0.03
Min	0.008	0.008	0.06	0.05	0.24	0.30	0.30	0.30	1.94	0.08	0.01	0.01
Ac-ft	0.5	6.4	9.5	8.7	17.0	53.3	24.7	180	237	29.4	2.7	0.7
Cal yr 1966: Total	89.323		Mean	0.245	Max	2.22	Min	0.006	Ac-ft	177		
Wtr yr 1967: Total	287.520		Mean	0.793	Max	6.64	Min	0.008	Ac-ft	570		

SACRAMENTO RIVER BASIN

11-4261.5. ONION CREEK NEAR SODA SPRINGS, CALIF.

LOCATION.--Lat 39°16'00", long 120°21'50", in SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.11, T.16 N., R.14 E., on right bank 0.3 mile upstream from unnamed tributary, 1 mile upstream from mouth, and 4.0 miles south of Soda Springs.

DRAINAGE AREA.--3.58 sq mi.

RECORDS AVAILABLE.--August 1959 to September 1967.

GAGE.--Graphic water-stage recorder and concrete control. Altitude of gage is 5,900 ft (from topographic map).

AVERAGE DISCHARGE.--8 years, 9.17 cfs (6,640 acre-ft per year).

EXTREMES.--Maximum discharge during year, 366 cfs June 19 (gage height, 2.91 ft), from rating curve extended above 70 cfs on basis of slope-area measurements at gage heights 2.62 and 3.64 ft; minimum daily, 0.6 cfs Sept. 11-16.

1959-67: Maximum discharge, 1,750 cfs Dec. 23, 1964 (gage heights, 4.98 ft, in gage well, 6.82 ft, from floodmarks), from rating curve extended above 40 cfs on basis of slope-area measurement of maximum flow; minimum daily, 0.1 cfs for several days in 1959, 1961.

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

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.80	1.0	6.7	2.5	8.8	7.7	11	5.8	34	27	3.3	0.80
2	.80	1.0	6.3	2.3	7.7	8.8	11	7.2	26	25	3.0	.80
3	.80	1.0	6.3	2.3	6.7	8.8	10	9.9	31	22	3.0	.80
4	.80	1.1	4.6	2.3	5.8	7.7	10	9.4	37	19	2.8	1.1
5	.90	1.1	9.4	2.3	5.8	7.2	9.9	9.4	49	19	2.8	1.0
6	.90	1.3	7.2	2.3	6.3	8.2	9.9	15	52	17	3.0	.80
7	.90	1.4	5.0	2.3	6.3	8.8	9.4	21	56	16	3.0	.70
8	.90	1.4	3.9	2.3	6.3	9.9	9.4	34	69	16	3.0	.70
9	.90	1.3	3.6	2.3	6.7	10	8.8	33	82	16	2.3	.70
10	.90	1.4	3.9	2.3	7.2	9.4	8.8	22	75	16	1.1	.70
11	1.0	1.6	3.9	2.3	8.2	9.9	8.2	18	71	16	1.1	.60
12	1.0	1.7	3.9	2.3	6.7	10	8.2	16	69	16	1.1	.60
13	1.0	1.7	3.9	2.3	9.9	12	8.2	18	77	15	1.0	.60
14	1.0	1.6	3.3	2.6	9.4	6.7	8.2	24	73	15	1.0	.60
15	1.0	3.0	3.6	3.0	8.2	6.7	7.7	42	77	14	1.0	.60
16	1.0	7.2	3.6	3.3	7.7	8.2	7.2	71	79	14	1.0	.60
17	1.0	5.0	3.6	3.3	7.2	6.3	7.7	89	92	12	1.0	.70
18	1.0	2.5	3.6	3.3	8.2	3.7	8.2	89	104	10	1.0	2.5
19	1.0	3.0	3.6	3.0	8.2	24	6.7	99	124	9.9	1.0	.90
20	1.0	8.8	3.9	3.6	7.2	19	6.7	131	99	8.8	1.0	.70
21	1.0	3.3	3.6	1.3	7.2	19	6.7	178	89	7.7	.90	.70
22	1.0	2.8	3.3	6.9	7.2	19	6.7	170	75	5.4	.90	.70
23	1.0	2.1	3.3	1.9	7.7	18	6.3	156	61	4.3	1.1	.70
24	1.0	1.9	3.3	5.8	7.2	16	6.3	141	59	3.3	1.0	1.0
25	1.0	1.7	3.3	3.3	6.7	15	5.8	104	59	3.0	1.0	.90
26	1.0	1.7	3.0	3.6	6.3	14	5.8	110	52	2.8	1.1	.70
27	1.0	1.7	3.0	5.8	6.7	13	5.8	92	45	3.0	1.0	.70
28	1.0	3.3	3.0	5.4	7.7	12	5.4	79	42	3.3	.80	.70
29	1.0	2.5	2.5	1.5	-----	12	5.4	73	37	3.6	.80	.70
30	1.0	7.7	2.5	14	-----	12	5.4	57	34	3.9	.80	.70
31	1.0	-----	2.5	12	-----	12	-----	42	-----	3.6	.80	-----
Total	29.60	129.0	127.1	213.1	205.2	513.8	234.8	1,965.7	1,929	366.6	47.70	24.00
Mean	0.95	4.30	4.10	7.04	7.33	16.7	7.83	63.4	64.3	11.8	1.54	0.80
Max	1.0	3.3	9.4	6.9	9.9	8.2	11	173	124	27	3.3	2.5
Min	0.8	1.0	2.5	2.3	6.3	6.7	5.4	5.8	26	2.8	0.8	0.6
Ac-ft	59	256	252	433	407	1,030	466	3,900	3,830	727	95	48

Cal yr 1966: Total 2,203.4 Mean 5.05 Max 4.3 Min 0.2 Ac-ft 4,380
Wtr yr 1967: Total 5,795.6 Mean 15.9 Max 17.3 Min 0.6 Ac-ft 11,500

Peak discharge (base, 50 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-28	1300	2.24	89	5-21	1630	2.84	327
1-22	0600	2.30	104	6-19	1500	2.91	366
3-16	1300	2.39	131				

11-4261.9. LAKE VALLEY CANAL NEAR EMIGRANT GAP, CALIF.

LOCATION.--Lat 39°18'00", long 120°39'10", in NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec.32, T.17 N., R.12 E., on right bank 0.25 mile upstream from inlet to Carpenter Flat Siphon and one mile east of Emigrant Gap.

RECORDS AVAILABLE.--October 1964 to September 1967.

GAGE.--Graphic water-stage recorder and concrete control. Altitude of gage is 5,360 ft (from topographic map).

EXTREMES.--1964-67: Maximum daily discharge, 38 cfs Nov. 18, 1965; no flow for several months in each year.

REMARKS.--Records good. Canal diverts from right bank of the North Fork of North Fork American River 2.7 miles downstream from Lake Valley Reservoir to the Drum Canal in the Bear River basin.

COOPERATION.--Recorder chart and four discharge measurements furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	27	26								0	31	31
2	27	26								0	31	31
3	27	26								0	31	31
4	27	28								0	31	31
5	27	28								0	31	31
6	27	28								0	31	31
7	27	28								0	31	31
8	27	28								0	31	31
9	26	28								0	31	31
10	26	28								0	31	31
11	26	28								0	31	31
12	26	27								0	31	31
13	26	27								0	31	31
14	26	27								0	31	31
15	26	28								0	31	19
16	26	28								0	31	.60
17	26	27								0	31	8.8
18	26	27								0	31	31
19	26	27								0	31	31
20	26	29								0	30	31
21	26	21								0	30	31
22	26	0								0	30	31
23	26	0								0	30	31
24	25	0								0	30	31
25	25	0								0	30	31
26	25	0								0	30	30
27	25	0								0	31	30
28	25	0								14	31	31
29	25	0								32	31	31
30	26	0								31	31	31
31	26									31	31	
Total	808	570	0	0	0	0	0	0	0	108	954	862.40
Mean	26.1	19.0	0	0	0	0	0	0	0	3.48	30.8	28.7
Max	27	29	0	0	0	0	0	0	0	32	31	31
Min	25	0	0	0	0	0	0	0	0	0	30	0.60
Ac-ft	1,600	1,130	0	0	0	0	0	0	0	214	1,990	1,710
Cal yr 1966: Total	3,788.5		Mean	10.4	Max	35	Min	0	Ac-ft	7,510		
Wtr yr 1967: Total	3,302.4		Mean	9.05	Max	32	Min	0	Ac-ft	6,550		

SACRAMENTO RIVER BASIN

11-4262. NORTH FORK FORBES CREEK NEAR DUTCH FLAT, CALIF.

LOCATION.--Lat 39°08'37", long 120°45'30", in SE $\frac{1}{4}$ sec.17, T.15 N., R.11 E., on right bank 0.2 mile downstream from Big Reservoir and 6.0 miles southeast of Dutch Flat.

DRAINAGE AREA.--1.68 sq mi.

RECORDS AVAILABLE.--July 1956 to September 1967.

GAGE.--Graphic water-stage recorder. Altitude of gage is 3,980 ft (from topographic map).

AVERAGE DISCHARGE.--11 years, 4.34 cfs (3,140 acre-ft per year).

EXTREMES.--Maximum discharge during year, 100 cfs Mar. 25 (gage height, 3.58 ft); minimum daily, 0.30 cfs for many days.

1956-67: Maximum discharge, 200 cfs Feb. 1, 1963 (gage height, 4.18 ft); no flow for many days in 1964-66. Maximum stage known, 6.40 ft probably Dec. 23, 1955, from floodmarks (discharge unknown).

REMARKS.--Flow regulated by Big Reservoir (capacity, 2,200 acre-ft). Some diversion above the station for mining.

COOPERATION.--Records furnished by Bureau of Reclamation and reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.90	0.90	4.3	11	15	1.7	31	21	2.5	1.1	0.90	0.30
2	.90	.90	3.9	11	15	1.7	30	20	2.3	1.0	.90	.30
3	.90	.90	12	11	15	1.7	30	20	2.3	1.0	.90	.30
4	.90	.90	12	11	15	1.8	29	20	2.3	1.0	.90	.30
5	.90	.90	13	11	15	1.8	29	21	2.3	1.0	.90	.40
6	.90	1.0	14	11	15	1.9	29	20	2.3	1.0	.90	.30
7	.90	1.0	13	11	14	1.9	28	20	2.3	1.0	.90	.30
8	.90	.90	13	10	14	1.9	28	20	2.3	1.0	.90	.30
9	.90	.90	13	.99	14	1.9	27	21	2.2	1.0	.90	.30
10	.90	.90	13	9.5	14	1.9	27	22	2.1	1.0	.90	.40
11	.90	.90	13	9.3	14	2.0	26	22	2.1	1.0	.90	.40
12	.90	.90	13	9.0	13	2.0	26	23	2.1	.90	.90	.30
13	.90	.90	13	8.5	13	2.0	25	23	2.2	.80	.70	.30
14	.90	.90	13	3.3	13	2.1	25	17	2.1	.80	.40	.30
15	.90	1.0	13	8.2	13	2.3	25	3.0	1.7	.80	.40	.30
16	.90	1.7	13	8.0	13	4.7	25	3.0	1.1	.80	.30	.30
17	.90	2.2	13	7.6	13	3.8	24	3.0	1.1	.90	.30	.40
18	.90	2.2	13	7.4	13	3.5	25	2.8	1.1	.80	.30	.40
19	.90	2.2	13	7.3	12	3.6	25	2.4	1.1	.80	.30	.40
20	.90	2.6	12	7.2	12	10	24	2.4	1.0	.80	.30	.30
21	.90	3.5	11	10	12	22	24	2.4	1.0	.80	.30	.30
22	.90	4.5	11	11	12	19	24	2.4	1.0	.80	.30	.30
23	.90	4.3	11	10	11	12	23	2.4	1.0	.80	.30	.30
24	.90	4.2	11	11	11	22	23	2.4	1.1	.80	.30	.30
25	.90	4.2	11	11	5.3	37	23	2.4	1.1	.80	.30	.30
26	.90	4.1	11	11	1.7	29	22	2.4	1.1	.80	.30	.30
27	.90	4.0	11	11	1.7	20	22	2.4	1.1	.90	.30	.30
28	.90	4.1	11	12	1.7	27	22	2.5	1.1	.90	.30	.30
29	.90	4.2	11	15	- - - -	31	21	2.5	1.1	.90	.30	.30
30	.90	4.2	11	14	- - - -	30	21	2.5	1.1	.90	.30	.30
31	.90	- - - -	11	15	- - - -	30	- - - -	2.6	- - - -	.90	.30	- - - -
Total	27.90	66.00	366.2	313.2	331.4	332.2	763	333.5	49.2	27.80	17.10	9.60
Mean	0.90	2.20	11.8	10.3	11.8	10.7	25.4	10.8	1.64	0.90	0.55	.32
Max	0.90	4.5	14	15	15	37	31	23	2.5	1.1	0.90	0.40
Min	0.90	0.90	4.3	7.2	1.7	1.7	21	2.4	1.0	0.80	0.30	0.30
Ac-ft	55	131	726	531	657	559	1,510	661	98	55	34	19

Cal yr 1966: Total 380.90 Mean 2.41 Max 14 Min 0.40 Ac-ft 1,750
Wtr yr 1967: Total 2,642.10 Mean 7.24 Max 37 Min 0.30 Ac-ft 5,240

SACRAMENTO RIVER BASIN

927

11-4264. NORTH SHIRTTAIL CREEK NEAR DUTCH FLAT, CALIF.

LOCATION.--Lat 39°07'49", long 120°47'44", in SE $\frac{1}{4}$ sec.24, T.15 N., R.10 E., on right bank 200 ft downstream from Forbes Creek and 7.0 miles southeast of Dutch Flat.

DRAINAGE AREA.--9.10 sq mi.

RECORDS AVAILABLE.--July 1956 to September 1967.

GAGE.--Graphic water-stage recorder. Altitude of gage is 3,500 ft (from topographic map).

AVERAGE DISCHARGE.--11 years, 19.8 cfs (14,330 acre-ft per year).

EXTREMES.--Maximum discharge during year, 505 cfs Jan. 21, 29 (gage height, 4.34 ft); minimum daily, 0.30 cfs Oct. 3, 4, 10-12.

1956-67: Maximum discharge, 1,780 cfs Dec. 22, 1964 (gage height, 7.56 ft), from rating curve extended above 590 cfs on basis of slope-area measurement at gage height 6.36 ft; minimum daily, 0.20 cfs for many days in 1959, 1960, and 1966.

Flood of Dec. 23, 1955, reached a stage of 7.30 ft, from floodmarks (discharge, 1,650 cfs).

REMARKS.--Flow slightly regulated by Big Reservoir (capacity, 2,200 acre-ft).

COOPERATION.--Records furnished by Bureau of Reclamation and reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.40	0.50	36	17	159	15	60	50	23	5.7	2.4	0.60
2	.40	.50	104	17	125	15	57	55	21	5.4	2.3	.60
3	.30	.50	81	15	103	14	56	70	20	5.2	2.0	.70
4	.30	.50	55	16	89	14	57	35	13	5.1	1.8	.70
5	.40	.50	137	16	77	13	57	102	20	4.9	2.1	.90
6	.40	3.7	170	15	63	12	63	104	21	4.7	2.3	.80
7	.40	2.4	110	14	63	12	70	113	13	4.6	2.2	.70
8	.40	1.7	76	14	57	11	67	121	17	4.4	2.1	.60
9	.40	1.6	59	13	51	11	70	127	16	4.3	2.1	.60
10	.30	1.5	54	12	47	13	74	173	14	4.2	1.9	.60
11	.30	1.5	45	12	44	19	70	145	14	4.1	1.8	.60
12	.40	1.5	40	12	41	19	67	122	14	3.8	1.8	.60
13	.40	1.5	38	12	39	19	69	108	17	3.6	1.6	.50
14	.50	1.7	35	11	41	17	77	94	15	3.5	1.4	.50
15	.50	2.9	33	11	38	23	73	72	13	3.4	1.1	.50
16	.50	12	31	10	36	293	70	64	11	3.4	.90	.50
17	.50	7.2	29	10	35	205	75	55	10	3.3	.80	.60
18	.50	5.3	28	10	34	139	76	46	10	3.2	.70	1.3
19	.50	6.8	27	9.8	33	112	71	41	9.6	3.1	.70	.80
20	.50	33	26	21	31	102	66	37	9.0	3.0	.70	.60
21	.50	31	24	274	30	104	65	34	3.5	2.8	.70	.60
22	.50	31	23	179	29	96	63	31	3.1	2.9	.70	.50
23	.60	14	22	94	23	47	64	29	7.8	2.9	.70	.60
24	.50	11	22	72	27	70	66	27	7.4	2.8	.70	.70
25	.50	9.4	21	59	23	39	64	25	7.2	2.7	.60	.60
26	.50	3.4	21	65	17	73	64	24	6.9	2.6	.60	.60
27	.50	7.9	20	80	16	66	66	23	6.5	2.6	.60	.50
28	.50	13	19	142	15	67	62	22	6.4	2.6	.60	.50
29	.50	25	19	339	-----	63	59	21	6.1	2.5	.60	.50
30	.50	18	18	250	-----	65	53	20	5.9	2.4	.60	.50
31	.50	-----	18	249	-----	63	-----	20	-----	2.4	.60	-----
Total	1390	255.50	1,441	2,071.8	1,403	1,892	1,981	2,086	3,814	112.1	39.70	1,890
Mean	0.45	3.52	46.5	66.8	50.3	61.0	66.0	67.3	12.7	3.62	1.28	0.63
Max	0.60	33	170	339	169	293	77	173	23	5.7	2.4	1.3
Min	0.30	0.50	18	9.8	15	11	56	20	5.9	2.4	0.60	0.50
Ac-ft	23	507	2,860	4,110	2,790	3,750	3,330	4,140	755	222	79	37

Cal yr 1966: Total 5,103.90 Mean 14.0 Max 170 Min 0.20 Ac-ft 10,120
 Wtr yr 1967: Total 11,701.30 Mean 32.1 Max 339 Min 0.30 Ac-ft 23,210

Peak discharge (base, 180 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-02	2110	3.30	213	1-29	0720	4.32	505
12-06	1300	3.42	240	3-16	1720	4.08	424
1-21	2050	4.34	505	5-10	0520	3.21	202

SACRAMENTO RIVER BASIN

11-4270. NORTH FORK AMERICAN RIVER AT NORTH FORK DAM, CALIF.

LOCATION.--Lat 38°56'15", long 121°01'25", in SW¼NW¼ sec.31, T.13 N., R.9 E., on left bank 50 ft upstream from spillway of North Fork Dam, 2 miles upstream from Middle Fork, and 4 miles northeast of Auburn.

DRAINAGE AREA.--342 sq mi (revised).

RECORDS AVAILABLE.--October 1941 to September 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is 715.0 ft above mean sea level (levels by Corps of Engineers).

AVERAGE DISCHARGE.--26 years, 814 cfs (589,300 acre-ft per year); median of yearly mean discharges, 710 cfs (514,000 acre-ft per year).

EXTREMES.--Maximum discharge during year, 17,100 cfs Mar. 16 (gage height, 6.21 ft); minimum daily, 40 cfs Oct. 1, 11, 13.

1941-67: Maximum discharge, 65,400 cfs Dec. 23, 1964 (gage height, 11.87 ft), from rating curve extended above 24,000 cfs on basis of computed flow over spillway 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.

REMARKS.--Records good. Minor regulation by Lake Clementine (usable capacity, 12,800 acre-ft) formed by North Fork Dam. Storage in Big Reservoir and Lake Valley Reservoir (combined capacity, 10,300 acre-ft) above station. Lake Valley Canal diverts from North Fork of North Fork American River into Bear River basin for power development in Alta powerhouse of Pacific Gas and Electric Co. Combined storage and diversion have small effect on natural flow. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	40	46	959	304	4,330	512	1,700	1,040	1,920	1,610	206	81
2	43	46	2,820	297	2,940	512	1,610	1,070	1,610	1,420	188	77
3	43	49	3,850	284	2,220	521	1,470	1,200	1,410	1,340	176	77
4	43	52	1,560	284	1,850	512	1,440	1,410	1,700	1,130	170	77
5	43	49	3,720	284	1,660	460	1,440	1,430	2,300	1,000	165	81
6	43	73	4,560	277	1,500	434	1,770	1,360	2,330	882	155	81
7	43	136	3,160	256	1,370	442	2,560	1,860	2,250	790	150	77
8	43	93	1,870	250	1,250	460	1,980	2,480	2,280	703	145	77
9	43	65	1,430	244	1,150	485	1,720	3,140	2,430	656	141	77
10	43	58	1,340	237	1,100	512	1,680	3,340	2,360	593	136	77
11	40	58	1,330	231	1,070	722	1,670	2,370	2,300	557	131	77
12	43	55	1,080	237	1,040	1,080	1,530	1,940	2,200	530	126	73
13	40	55	948	237	1,080	1,460	1,510	1,800	2,480	494	121	69
14	43	55	926	237	1,090	1,320	1,540	1,880	2,240	485	116	69
15	43	81	810	250	926	1,130	1,440	2,390	2,300	451	116	69
16	46	389	741	256	840	10,200	1,300	3,340	2,480	426	111	69
17	46	370	703	256	780	9,880	1,310	3,880	2,790	400	106	73
18	46	219	656	244	750	5,350	1,710	3,900	3,000	370	106	81
19	46	160	611	231	732	3,640	1,670	3,720	2,830	348	101	93
20	46	1,100	584	331	674	2,830	1,560	4,260	2,740	318	101	81
21	46	1,170	557	6,010	629	2,420	1,500	4,880	2,560	297	97	73
22	46	920	512	5,860	602	2,360	1,370	4,880	2,360	290	97	73
23	46	439	476	2,240	593	2,470	1,440	4,620	2,140	277	93	77
24	49	277	451	1,910	566	2,320	1,660	4,320	1,980	277	89	73
25	46	219	426	1,910	575	1,920	1,560	3,900	2,080	263	89	73
26	46	182	400	1,640	530	1,720	1,410	3,620	2,070	244	93	69
27	46	165	370	2,310	503	1,560	1,380	3,400	1,910	237	93	65
28	49	246	348	3,090	494	1,470	1,260	3,310	1,800	231	89	65
29	49	2,770	340	8,410	- - - - -	1,440	1,140	2,840	1,810	231	89	65
30	46	1,270	340	6,920	- - - - -	1,360	1,070	2,620	1,730	225	85	65
31	46	- - - - -	318	6,610	- - - - -	1,510	- - - - -	2,340	- - - - -	219	85	- - - - -
Total	1,381	10,867	38,196	52,137	32,844	62,812	46,500	88,540	66,390	17,294	3,766	2,234
Mean	44.5	362	1,232	1,682	1,173	2,026	1,550	2,856	2,213	558	121	74.5
Max	49	2,770	4,560	8,410	4,330	10,200	2,660	4,880	3,000	1,610	206	93
Min	40	46	318	231	494	434	1,070	1,040	1,410	219	85	65
Ac-ft	2,740	21,550	75,760	103,400	65,150	124,600	92,230	175,600	131,700	34,300	7,470	4,430

Cal yr 1966: Total 181,546 Mean 497 Max 4,560 Min 31 Ac-ft 360,100
 Wtr yr 1967: Total 422,961 Mean 1,158 Max 10,200 Min 40 Ac-ft 838,900

Peak discharge (base, 4,300 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-03	0300	4.01	6,040	1-29	1330	5.49	12,900
12-06	1700	4.12	6,460	3-16	1700	6.21	17,100
1-21	2400	5.29	11,900	5-21	2400	4.15	6,300

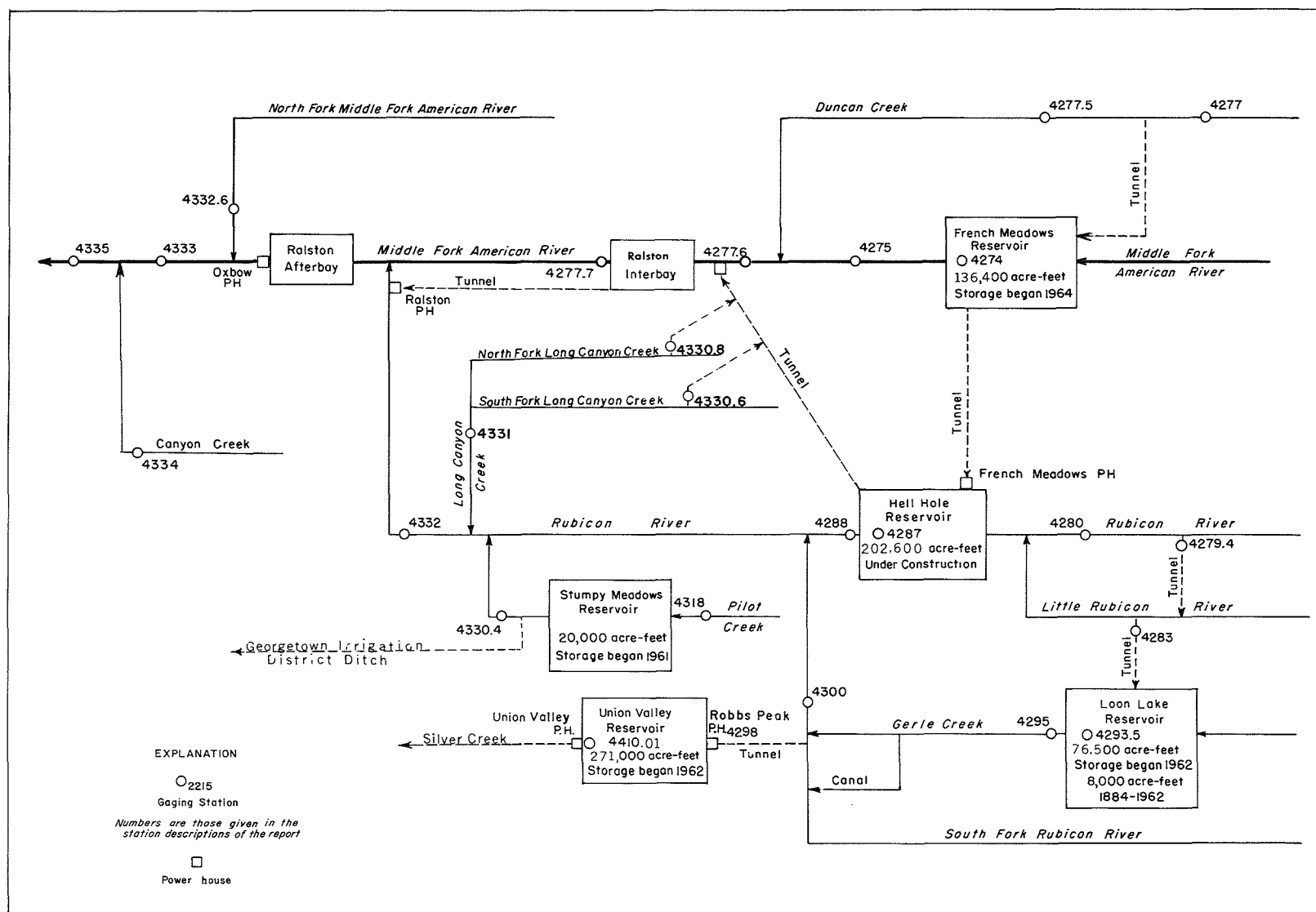


Figure 11--Schematic diagram showing diversions and storage in Middle Fork American and Rubicon river basins.

SACRAMENTO RIVER BASIN

11-4274. FRENCH MEADOWS RESERVOIR NEAR FORESTHILL, CALIF.

LOCATION.--Lat 39°06'32", long 120°25'49", in SW¼ sec.32, T.15 N., R.14 E., on left bank 2.2 miles upstream from dam on Middle Fork American River, 6.9 miles upstream from Chipmunk Creek, and 21 miles northeast of Foresthill.

DRAINAGE AREA.--47.0 sq mi.

RECORDS AVAILABLE.--December 1964 to September 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is at mean sea level (levels by Placer County Water Agency).

EXTREMES.--Maximum contents during year, 136,100 acre-ft July 7-9 (elevation, 5,267.8 ft); minimum, 76,500 acre-ft May 8 (elevation, 5,214.1 ft).

1964-67: Maximum contents, 137,700 acre-ft May 19, 1966 (elevation, 5,263.9 ft); minimum since reservoir first filled, 76,500 acre-ft May 8, 1967 (elevation, 5,214.1 ft).

REMARKS.--Reservoir is formed by rockfill dam with earth core. Storage began Dec. 21, 1964. Usable capacity, 125,600 acre-ft between elevations 5,125 (minimum operating level) and 5,263 ft (top of radial gates). Dead storage, 10,800 acre-ft. Up to 400 cfs is diverted in reservoir through tunnel from Duncan Creek. Water is released through tunnel to French Meadows powerplant and then into Hell Hole Reservoir on Rubicon River; releases began Dec. 13, 1965. Records, including extremes, represent total contents at 2400 hours. See schematic diagram for Middle Fork American and Rubicon River basins.

COOPERATION.--Thirteen staff gage readings furnished by Placer County Water Agency.

REVISIONS (water year).--1966 report: 1965.

Contents, in thousands of acre-feet, at 2400 hours, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	118.3	103.8	104.3	91.8	96.5	90.6	90.3	79.2	103.7	135.1	126.1	105.8
2	117.5	103.2	104.8	91.0	96.8	90.1	89.8	78.6	103.9	135.8	125.6	105.0
3	116.6	102.6	104.9	90.4	96.6	89.6	89.4	78.1	104.3	136.0	125.1	104.4
4	115.8	102.0	104.5	89.8	96.8	89.0	88.9	77.6	104.9	136.0	124.4	103.7
5	115.2	101.4	104.9	89.7	96.9	88.4	88.6	77.2	106.4	135.8	123.7	103.0
6	114.5	100.9	105.6	89.5	96.8	87.8	88.7	76.7	107.5	135.8	123.0	102.2
7	114.1	100.3	105.6	89.5	96.6	87.3	89.0	76.6	108.6	136.1	122.4	101.5
8	114.1	99.7	105.1	89.7	96.9	86.8	89.3	76.5	109.8	136.1	121.7	100.8
9	114.1	99.5	104.7	89.5	96.8	86.4	89.6	76.7	111.5	136.1	121.0	100.1
10	113.8	99.5	104.4	89.3	96.8	85.9	89.8	76.9	112.9	136.0	120.4	99.4
11	113.5	99.5	103.9	89.2	96.9	85.7	89.7	76.9	114.3	136.0	119.7	98.6
12	113.5	99.4	103.6	88.9	97.0	86.1	89.3	76.7	115.8	135.7	118.9	97.9
13	113.3	99.4	103.1	88.7	97.0	86.6	88.7	76.6	117.4	135.6	118.3	97.2
14	113.3	99.4	102.7	88.9	96.9	86.8	88.4	76.6	118.9	135.3	117.6	96.4
15	113.1	99.5	102.4	89.0	96.8	87.0	87.8	76.6	120.7	135.1	116.9	95.7
16	113.1	100.0	101.9	88.8	96.5	89.7	87.3	77.5	122.6	134.9	116.2	94.9
17	112.7	100.0	101.4	88.7	96.3	91.8	86.9	78.2	124.8	134.4	115.6	94.3
18	112.2	100.1	100.8	88.6	96.2	92.3	86.5	80.3	127.0	134.0	115.0	93.5
19	111.6	100.2	100.3	88.6	95.8	92.6	86.0	81.7	129.1	133.6	114.4	93.0
20	111.0	100.9	99.8	88.8	95.4	92.6	85.5	83.7	131.2	133.0	113.6	92.0
21	110.3	101.3	99.2	89.7	94.9	92.6	85.0	85.8	132.5	132.6	113.0	91.3
22	109.7	101.4	98.6	89.8	94.4	92.5	84.5	88.4	132.2	131.9	112.4	90.6
23	109.2	101.4	97.9	90.1	93.8	92.5	83.9	90.5	131.9	131.5	112.0	89.8
24	108.5	101.4	97.3	90.5	93.4	92.5	83.4	93.0	132.3	130.9	111.4	89.2
25	108.0	101.4	96.6	90.6	92.8	92.2	82.6	94.9	132.8	130.4	110.6	88.5
26	107.4	101.5	95.9	91.0	92.2	92.0	82.1	96.6	133.2	129.8	110.0	87.8
27	106.7	101.5	95.2	91.3	91.7	91.7	81.5	98.2	132.6	129.1	109.3	87.1
28	106.1	102.5	94.5	92.0	91.1	91.4	81.0	99.5	132.5	128.6	108.6	86.5
29	105.5	103.7	93.7	93.8	-----	91.1	80.4	100.9	133.3	128.0	107.8	85.9
30	104.9	104.0	93.0	95.4	-----	91.0	79.8	102.1	134.4	127.5	107.2	85.8
31	104.4	-----	92.3	96.2	-----	90.7	-----	103.1	-----	126.8	106.5	-----
(†)	5,238.7	5,238.4	5,228.5	5,231.8	5,227.4	5,227.1	5,217.2	5,237.6	5,261.6	5,256.1	5,240.4	5,222.7
(‡)	-14.7	-0.4	-11.7	‡3.9	‡5.1	-0.4	-10.9	‡23.3	‡31.3	-7.6	-20.3	-20.7
Max	118.3	104.0	105.6	96.2	97.0	92.6	90.3	103.1	134.4	136.1	126.1	105.8
Min	104.4	99.4	92.3	88.6	91.1	85.7	79.8	76.5	103.7	127.5	106.5	85.8
Calendar year 1966..... ‡				-7.4	Max	137.7	Min	79.9				
Water year 1966-67..... ‡				-33.3	Max	136.1	Min	85.7				

† Elevation, in feet, at end of month.

‡ Change in contents, in thousands of acre-feet.

11-4275. MIDDLE FORK AMERICAN RIVER AT FRENCH MEADOWS, CALIF.

LOCATION.--Lat 39°06'35", long 120°28'49", in W $\frac{1}{4}$ sec. 36, T.15 N., R.13 E., on left bank 0.6 mile downstream from French Meadows Dam, 4.1 miles upstream from Chipmunk Creek, and 14 miles south of Cisco.

DRAINAGE AREA.--47.9 sq mi.

RECORDS AVAILABLE.--October 1951 to September 1967.

GAGE.--Graphic water-stage recorder. Altitude of gage is 4,920 ft (from topographic map). Prior to Oct. 1, 1962, at site 0.8 mile upstream at different datum.

EXTREMES.--Maximum discharge during year, 846 cfs June 27 (gage height, 7.01 ft); minimum daily, 6.3 cfs Nov. 4, 5.

1951-64 (prior to regulation by French Meadows Reservoir): Maximum discharge, 21,500 cfs Jan. 31, 1963 (gage height, 14.20 ft), from rating curve extended above 1,100 cfs on basis of maximum flow at former site; minimum, 0.3 cfs Oct. 4, 5, 21-25, 1960, Oct. 5, 6, 1961.

1964-67: Maximum discharge, 1,310 cfs Apr. 30, 1965 (gage height, 7.68 ft); minimum daily, 0.8 cfs Oct. 22-25, 1964.

REMARKS.--Records good except those for period June 21 to July 6, which are poor. Flow regulated by French Meadows Reservoir beginning in December 1964 (see sta. no. 4274). Diversions from Duncan Creek to French Meadows Reservoir since December 1964 and from French Meadows Reservoir to Hell Hole Reservoir since December 1965. See schematic diagram for Middle Fork American and Rubicon River basins.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.6	6.6	12	9.7	14	11	12	11	14	8.4	8.6	7.8
2	9.8	6.5	17	9.7	13	11	12	11	13	8.9	8.6	7.8
3	9.8	6.5	13	9.7	12	11	12	11	13	211	8.6	7.8
4	3.6	6.3	11	9.7	12	11	12	11	13	211	8.6	7.8
5	3.6	6.3	15	9.7	12	11	12	11	15	208	8.6	7.8
6	8.6	6.8	20	9.5	12	11	12	13	14	96	8.6	7.8
7	3.6	6.8	13	9.5	12	11	12	14	14	8.4	8.6	7.8
8	9.8	6.5	12	9.5	11	11	12	15	13	8.4	8.6	7.8
9	3.6	6.5	11	9.5	11	11	12	15	13	8.4	8.6	7.6
10	8.6	7.0	12	9.5	12	11	12	15	13	8.4	8.6	7.4
11	8.8	7.4	12	9.5	12	11	12	14	13	8.4	8.6	7.4
12	9.8	7.4	11	9.5	12	11	12	13	14	8.4	8.6	7.4
13	8.6	7.6	11	9.5	12	11	12	14	13	8.4	8.6	7.4
14	8.6	7.6	11	9.5	12	11	12	14	12	8.4	8.6	7.4
15	8.6	7.8	11	9.5	12	11	12	16	12	8.4	8.6	7.4
16	8.6	9.2	11	9.5	11	30	12	18	12	8.6	8.6	7.4
17	3.4	8.6	11	9.5	11	22	12	18	12	8.6	8.6	7.6
18	3.2	8.0	11	9.5	11	17	12	19	12	8.6	8.6	7.8
19	8.2	8.6	11	9.5	11	15	12	19	11	9.6	8.6	7.6
20	8.2	11	11	9.5	11	15	11	21	12	8.6	8.4	7.4
21	8.2	9.0	11	14	11	15	11	22	345	8.4	8.2	7.4
22	8.2	8.8	11	12	11	14	11	21	804	8.4	8.2	7.4
23	8.0	8.4	11	11	11	16	11	20	600	8.4	8.2	7.4
24	7.8	8.4	11	10	11	14	11	19	438	8.4	8.2	7.4
25	7.8	8.4	11	10	11	14	11	18	438	8.4	8.2	7.4
26	7.8	8.4	10	11	11	13	11	17	418	8.4	8.2	7.6
27	7.8	8.6	10	13	11	13	11	16	799	8.4	8.2	7.6
28	7.6	11	10	14	11	13	11	16	507	8.4	8.2	7.6
29	7.6	12	10	28	-----	13	11	15	99	9.6	8.0	7.6
30	7.4	9.5	10	21	-----	12	11	14	8.4	8.6	7.8	7.6
31	7.0	-----	9.9	16	-----	12	-----	14	-----	8.6	7.8	-----
Total	256.8	241.5	361.9	351.0	324	413	349	485	4,714.4	1,035.0	261.0	227.2
Mean	8.28	8.05	11.7	11.3	11.6	13.3	11.6	15.6	157	33.4	8.42	7.57
Max	9.8	12	20	28	14	30	12	22	804	211	8.6	7.8
Min	7.0	6.3	9.9	9.5	11	11	11	11	8.4	8.4	7.8	7.4
Ac-ft	509	479	718	696	643	819	692	962	9,350	2,050	518	451
(†)	18,590	7,080	22,940	6,320	15,410	21,750	19,070	24,510	19,860	21,600	21,200	21,020

Calendar year 1966: Total 8,203.6 Mean 22.5 Max 330 Min 6.3 Ac-ft 16,270
 Water year 1966-67: Total 9,019.8 Mean 24.7 Max 804 Min 6.3 Ac-ft 17,890

† Diversion, in acre-feet, from French Meadows Reservoir to Hell Hole Reservoir through French Meadows powerplant.

Month end diversion to French Meadows powerplant
 October 1965 to September 1966, not previously published

Month	Diversion in acre-feet
October.....	0
November.....	0
December.....	13,110
January.....	12,060
February.....	10,350
March.....	0
April.....	0
May.....	7,140
June.....	1,190
July.....	0
August.....	680
September.....	6,500

SACRAMENTO RIVER BASIN

11-4277. DUNCAN CREEK NEAR FRENCH MEADOWS, CALIF.

LOCATION.--Lat 39°08'09", long 120°28'39", in NE¼ sec.24, T.15 N., R.13 E., on right bank 0.2 mile upstream from diversion dam, 0.5 mile downstream from Little Duncan Creek, 2 miles northwest of French Meadows, and 20 miles northeast of Foresthill.

DRAINAGE AREA.--9.94 sq mi.

RECORDS AVAILABLE.--August 1960 to September 1967.

GAGE.--Graphic water-stage recorder. Altitude of gage is 5,270 ft (from topographic map). Prior to Sept. 3, 1965, at site 150 ft upstream at datum 9.56 ft higher.

AVERAGE DISCHARGE.--7 years, 34.3 cfs (24,830 acre-ft per year).

EXTREMES.--Maximum discharge during year, 575 cfs Mar. 16 (gage height, 7.97 ft); minimum daily, 0.60 cfs Oct. 1, 2, 4-11.

1960-67: Maximum discharge, 3,650 cfs Dec. 22, 1964 (gage height, 10.6 ft, from floodmarks), from rating curve extended above 13 cfs on basis of computation of flow over diversion dam; minimum daily, 0.2 cfs Sept. 23-25, 1964.

REMARKS.--Records good. No storage or diversion above station. See schematic diagram for Middle Fork American and Rubicon River basins.

REVISIONS (water year).--1965 report: 1963.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.60	0.70	52	12	85	25	34	17	118	125	5.1	1.4
2	.60	.70	81	11	65	26	31	21	94	112	4.7	1.4
3	.70	.70	90	11	52	26	30	27	93	93	4.5	1.4
4	.60	.70	43	11	46	23	29	27	114	79	4.1	1.5
5	.60	.70	116	11	42	22	27	25	169	66	3.8	1.6
6	.60	2.0	104	17	39	23	26	36	172	56	3.6	1.4
7	.60	2.5	65	10	39	26	25	57	174	49	3.4	1.3
8	.60	2.5	44	9.8	37	26	25	80	182	41	3.3	1.3
9	.60	1.8	36	9.8	36	29	27	86	190	36	3.2	1.3
10	.60	1.6	39	9.8	37	28	26	70	196	31	3.0	1.3
11	.60	2.1	39	10	37	26	24	56	196	28	2.8	1.3
12	.70	2.0	34	10	39	26	23	50	193	25	2.7	1.2
13	.70	1.9	31	11	40	30	25	55	223	23	2.4	1.2
14	.70	1.8	30	12	40	31	25	70	214	20	2.2	1.1
15	.80	5.2	27	12	35	30	24	108	229	18	2.1	1.1
16	.70	34	25	12	32	376	23	164	271	17	2.1	1.1
17	.80	9.8	23	11	31	313	22	214	296	15	2.0	1.2
18	.80	4.5	22	11	32	182	21	220	299	14	2.0	3.4
19	.80	6.1	22	10	30	120	20	241	285	13	1.8	1.6
20	.80	34	22	11	28	93	19	302	274	12	1.8	1.3
21	.80	17	20	23	27	80	18	360	257	11	1.7	1.2
22	.80	9.8	19	20	26	77	18	376	232	10	1.6	1.3
23	.80	7.6	18	17	26	73	17	352	205	9.1	1.7	1.3
24	.80	6.6	17	18	26	64	17	336	199	8.5	1.8	1.3
25	.80	6.3	16	16	23	59	17	302	205	7.9	2.0	1.5
26	.80	5.7	14	20	22	52	16	282	190	7.3	2.0	1.2
27	.80	5.7	14	50	23	46	16	264	172	6.8	1.8	1.1
28	.80	85	14	49	24	44	16	244	159	6.5	1.6	1.1
29	.80	155	13	186	- - - -	40	15	226	150	6.2	1.6	1.1
30	.70	40	12	166	- - - -	37	15	193	142	6.0	1.5	1.1
31	.70	- - - -	12	127	- - - -	34	- - - -	157	- - - -	5.5	1.4	- - - -
Total	22.10	454.0	1.114	914.4	1.019	2.087	671	5.018	5.893	956.8	79.3	40.6
Mean	0.71	15.1	35.9	29.5	36.4	67.3	22.4	162	196	30.9	2.56	1.35
Max	0.80	155	116	186	85	376	34	376	299	125	5.1	3.4
Min	0.60	0.70	12	9.8	22	22	15	17	93	5.5	1.4	1.1
Ac-ft	44	900	2.210	1.810	2.020	4.140	1.330	9.950	11.690	1.900	1.57	81

Cal yr1966 : Total 8,421.10 Mean 23.1 Max 155 Min 0.40 Ac-ft 16,700
Wtr yr1967 : Total 18,269.2 Mean 50.1 Max 376 Min 0.60 Ac-ft 36,240

Peak discharge (base, 250 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-05	0600	7.14	264	5-17	1730	7.36	306
1-29	1030	7.18	264	5-21	1800	7.76	470
3-16	1230	7.97	575	6-18	1600	7.47	348

11-4277.5. DUNCAN CREEK BELOW DIVERSION DAM, NEAR FRENCH MEADOWS, CALIF.

LOCATION.--Lat 39°07'59", long 120°28'58", in NE¼SE¼ sec.23, T.15 N., R.13 E., on right bank 800 ft downstream from unnamed right bank tributary, 1,000 ft downstream from Duncan Creek diversion dam, and 20 miles north-east of Foresthill.

DRAINAGE AREA.--10.5 sq mi.

RECORDS AVAILABLE.--October 1964 to September 1967.

GAGE.--Graphic water-stage recorder. Altitude of gage is 5,210 ft (from topographic map).

EXTREMES.--Maximum discharge during year, 540 cfs Mar. 16 (gage height, 4.37 ft); minimum daily, 0.50 cfs Nov. 5. 1964-67: Maximum discharge, 3,640 cfs Dec. 22, 1964 (gage heights, 8.74 ft, in gage well, 10.0 ft, from floodmarks), from rating curve extended above 400 cfs on basis of computation of flow over diversion dam of maximum flow; no flow at times in 1964-66.

REMARKS.--Records good. Practically all flow is diverted above station through Duncan Creek diversion tunnel to French Meadows Reservoir. Maximum design flow of tunnel is 400 cfs. See schematic diagram for Middle Fork American and Rubicon River basins.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	.60	.60	7.8	4.1	25	6.9	26	5.3	11	5.8	2.2	1.6
2	.60	.60	12	3.9	11	7.2	22	8.2	11	5.8	2.2	1.4
3	.60	.60	11	3.9	8.4	7.2	19	14	11	5.6	2.2	1.4
4	.60	.60	8.4	3.7	8.1	6.9	18	14	11	5.6	3.0	1.6
5	.60	.60	15	3.9	8.1	6.6	16	9.9	14	5.3	3.7	1.8
6	.60	1.2	15	3.7	8.4	6.6	14	30	13	5.3	3.7	1.6
7	.60	2.2	10	3.5	8.7	6.9	13	60	12	5.3	3.5	1.6
8	.60	2.0	8.7	3.5	9.0	7.2	13	89	12	5.0	3.2	1.4
9	.60	1.2	7.5	3.4	9.3	7.5	16	100	11	4.8	2.9	1.4
10	.60	1.1	7.5	3.4	9.6	7.5	16	79	11	4.8	2.8	1.4
11	.60	1.3	7.5	3.4	9.6	7.2	12	58	10	4.8	2.6	1.4
12	.60	1.3	7.2	3.5	10	6.9	12	50	10	4.6	2.4	1.4
13	.60	1.2	7.2	3.7	10	7.2	14	56	11	4.6	2.3	1.4
14	.70	1.1	7.2	3.9	9.6	6.9	14	78	10	4.1	2.2	1.3
15	.70	3.7	6.9	4.1	8.7	6.3	11	125	12	3.5	2.2	1.2
16	.70	6.0	7.2	4.1	8.1	370	9.3	190	33	3.2	2.1	1.1
17	.70	5.0	7.2	3.9	7.5	307	9.0	238	52	3.2	1.8	1.2
18	.70	4.6	7.2	3.9	7.5	177	9.9	250	63	3.0	1.8	3.0
19	.60	3.4	7.5	3.7	7.5	120	8.1	255	62	3.0	1.8	1.6
20	.60	8.5	7.5	5.0	7.2	95	6.9	301	68	2.9	1.6	1.2
21	.70	5.8	6.9	18	7.2	83	6.0	358	70	2.6	1.6	1.0
22	.70	4.6	6.6	15	7.2	77	5.6	376	41	2.4	1.6	1.0
23	.70	3.5	6.3	6.6	7.2	76	5.3	352	15	2.4	1.6	1.1
24	.70	3.4	5.8	5.6	7.2	62	5.3	325	17	2.3	1.8	1.3
25	.70	3.4	5.6	5.3	6.9	54	5.3	290	20	2.3	2.0	1.4
26	.60	3.4	5.3	6.3	6.6	47	5.3	275	16	2.3	2.0	1.2
27	.60	3.4	5.0	8.7	6.6	41	5.3	260	6.9	2.3	2.0	1.0
28	.60	4.9	4.6	9.6	6.9	39	5.0	242	6.3	2.3	1.8	1.4
29	.60	9.2	4.3	5.2	---	34	5.0	108	6.0	2.3	1.6	1.3
30	.60	7.5	4.1	8.8	---	31	5.0	13	6.0	2.3	1.6	1.0
31	.60	---	4.1	6.5	---	28	---	12	---	2.2	1.4	---
Total	1960	22270	2341	3563	2471	17460	3323	46214	6522	1159	692	417
Mean	0.63	7.42	7.55	11.5	8.82	56.3	11.1	149	21.7	3.74	2.23	1.39
Max	0.70	92	15	88	25	370	26	376	70	5.8	3.7	1.8
Min	0.60	0.50	4.1	3.4	6.6	6.3	5.0	5.3	6.0	2.2	1.4	1.0
Ac-ft	39	442	464	707	490	3460	659	9170	1290	230	137	83
Cal yr 1966: Total	223540		Mean	6.12	Max	92	Min	0.4	Ac-ft	4430		
Wtr yr 1967: Total	865850		Mean	23.7	Max	376	Min	0.50	Ac-ft	17170		

SACRAMENTO RIVER BASIN

11-4277.6. MIDDLE FORK AMERICAN RIVER ABOVE MIDDLE FORK POWERHOUSE, NEAR FORESTHILL, CALIF.

LOCATION.--Lat 39°01'30", long 120°35'40", in NW1/4 sec.36, T.14 N., R.12 E., on right bank 300 ft upstream from Middle Fork powerhouse, 3.7 miles upstream from Big Mosquito Creek, and 11 miles east of Foresthill.

DRAINAGE AREA.--87.8 sq mi.

RECORDS AVAILABLE.--August 1965 to September 1967.

GAGE.--Graphic water-stage recorder. Altitude of gage is 2,540 ft (from topographic map).

EXTREMES.--Maximum discharge during year, 1,190 cfs Mar. 16 (gage height, 5.46 ft); minimum daily, 13 cfs Oct. 9.

1966-67: Maximum discharge, 1,190 cfs Mar. 16, 1967 (gage height, 5.46 ft); minimum daily, 12 cfs Aug. 31, 1966.

REMARKS.--Records good. Flow regulated by French Meadows Reservoir (see sta. no. 4274). See schematic diagram for Middle Fork American and Rubicon River basins.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	14	14	70	45	379	98	189	102	202	52	27	19
2	14	14	225	44	289	95	174	108	180	83	27	19
3	14	14	206	44	237	100	165	124	166	253	27	20
4	14	14	96	43	209	96	164	144	166	248	26	20
5	14	14	245	44	195	92	158	142	222	242	27	21
6	14	18	419	42	183	90	165	166	205	173	27	20
7	14	18	235	42	180	90	174	242	186	44	27	20
8	14	16	151	42	174	90	164	348	174	42	26	19
9	13	16	112	41	171	91	164	428	166	41	26	19
10	14	15	116	41	169	96	165	460	156	40	26	19
11	14	15	107	41	171	108	155	370	147	39	25	19
12	14	16	92	42	172	108	148	317	146	38	24	19
13	14	16	86	40	174	102	153	304	156	37	24	19
14	14	16	83	40	176	100	160	334	135	36	24	19
15	14	17	78	40	158	104	155	444	126	35	23	19
16	14	44	74	40	147	803	142	600	133	34	22	19
17	14	24	71	40	139	822	145	738	147	33	22	20
18	14	20	69	40	136	588	152	750	156	32	20	26
19	14	21	68	40	131	460	144	750	146	31	20	22
20	14	65	67	54	122	382	134	857	146	30	20	20
21	14	50	66	279	116	352	132	948	392	30	20	20
22	14	42	61	200	113	352	126	962	1090	30	20	20
23	14	25	59	131	111	385	126	892	843	30	20	20
24	14	22	56	130	108	355	128	815	585	29	20	20
25	14	21	56	111	108	322	124	726	585	29	23	20
26	15	20	55	126	101	286	120	648	585	28	21	20
27	15	20	51	183	98	252	126	580	969	28	21	19
28	15	66	50	227	97	244	119	535	748	28	20	19
29	15	208	49	666	- - - -	225	112	396	216	27	19	19
30	15	58	48	645	- - - -	212	111	240	56	27	19	19
31	15	- - - -	46	564	- - - -	203	- - - -	225	- - - -	27	19	- - - -
Total	439	939	3,267	4,107	4,564	7,703	4,394	14,695	9,330	1,876	712	594
Mean	14.2	31.3	105	132	163	248	146	474	311	60.5	23.0	19.8
Max	15	208	419	666	379	822	189	962	1,090	253	27	26
Min	13	14	46	40	97	90	111	102	56	27	19	19
Ac-ft	871	1,860	6,480	8,150	9,050	15,280	8,720	29,150	18,510	3,720	1,410	1,180

Cal yr 1966: Total	23,020	Mean	63.1	Max	419	Min	12	Ac-ft	45,660
Wtr yr 1967: Total	52,620	Mean	144	Max	1,090	Min	13	Ac-ft	104,400

11-4277.7. MIDDLE FORK AMERICAN RIVER BELOW INTERBAY DAM, NEAR FORESTHILL, CALIF.

LOCATION.--Lat 39°01'35", long 120°36'09", in SW¼SE¼ sec.26, T.14 N., R.12 E., on right bank 500 ft below Interbay Dam, 3.3 miles upstream from Big Mosquito Creek, and 10.6 miles east of Foresthill.

DRAINAGE AREA.--89.1 sq mi.

RECORDS AVAILABLE.--October 1965 to September 1967.

GAGE.--Graphic water-stage recorder. Altitude of gage is 2,470 ft (from topographic map).

EXTREMES.--Maximum daily discharge during year, 1,250 cfs June 22; minimum daily, 1.0 cfs Oct. 25-30, Jan. 19. 1965-67: Maximum daily discharge, 1,250 cfs June 22, 1967; minimum daily, 1.0 cfs Oct. 25-30, 1966, Jan. 19, 1967.

REMARKS.--Records poor. Flow regulated by French Meadows Reservoir (see sta. no. 4274) and after Aug. 22, 1966, by Interbay Reservoir (capacity, 130 acre-ft between normal operating limits of 2,502.0 and 2,526.0 ft). Water is diverted from Hell Hole Reservoir through tunnel to Interbay powerplant and rediverted to Ralston powerplant. See schematic diagram for Middle Fork American and Rubicon River basins.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	31	7.6	8.1	9.0	3.9	130	232	105	218	59	8.1	7.6
2	48	6.9	125	9.0	4.3	130	214	125	192	32	8.1	7.6
3	48	6.9	108	9.0	4.3	130	209	101	95	196	6.2	7.6
4	47	6.9	7.2	9.0	3.9	118	209	151	180	192	5.7	7.7
5	45	7.2	74	9.0	3.9	130	122	121	222	236	8.1	7.7
6	5.9	7.2	25	9.0	3.6	130	180	172	200	118	8.1	7.7
7	5.9	6.9	9.0	9.0	3.9	130	222	245	180	36	5.5	7.7
8	5.9	7.2	9.0	9.0	3.6	130	209	350	180	457	4.0	8.5
9	5.9	7.2	12	9.0	3.6	130	209	424	145	40	4.0	6.5
10	5.9	7.2	8.1	9.5	3.4	130	200	488	172	47	5.5	6.5
11	5.9	7.2	8.1	10	3.4	118	196	368	154	43	8.1	6.5
12	5.9	7.2	55	10	3.4	130	180	317	160	32	8.1	6.9
13	5.9	7.2	6.9	10	3.4	130	188	295	160	8.1	8.1	6.9
14	5.9	7.2	6.9	10	3.4	130	200	322	139	8.1	7.2	6.9
15	7.0	7.6	6.9	9.5	3.4	130	180	435	142	8.1	5.4	6.9
16	10	12	12	140	69	1,140	180	605	145	8.1	4.0	6.5
17	10	6.9	7.2	65	160	805	180	772	139	8.1	5.9	6.9
18	5.9	5.8	6.9	16	130	512	180	650	154	8.1	7.5	6.9
19	8.0	7.6	6.9	1.0	130	392	186	750	145	8.1	7.5	6.9
20	5.9	6.9	6.9	23	130	306	69	700	145	8.1	7.5	6.9
21	7.0	8.6	6.9	180	130	275	139	980	369	8.1	6.8	6.9
22	5.9	6.9	6.9	145	118	265	136	980	1,250	8.1	7.5	6.5
23	7.0	6.9	22	106	130	285	133	884	838	8.1	7.5	6.1
24	3.5	6.5	74	127	118	265	136	827	512	8.1	7.5	5.8
25	1.0	6.5	72	154	130	184	130	720	520	8.1	7.5	5.8
26	1.0	7.6	67	200	130	242	125	670	520	8.1	7.6	5.8
27	1.0	6.5	56	245	130	218	133	587	860	8.1	7.6	21
28	1.0	7.6	9.5	295	130	209	125	560	632	8.1	7.6	23
29	1.0	6.9	9.0	536	-----	245	66	398	587	8.1	7.6	14
30	1.0	7.6	9.0	40	-----	234	120	232	43	8.1	7.6	6.5
31	3.2	-----	9.0	5.0	-----	104	-----	222	-----	8.1	7.6	-----
Total	351.5	218.4	850.4	2,418.0	1,690.4	7,607	4,988	14,556	9,397	1,641.9	215.0	244.7
Mean	11.3	7.28	27.4	78.0	60.4	245	166	470	313	53.0	6.94	8.16
Max	48	12	125	536	160	1,140	232	980	1,250	457	8.1	23
Min	1.0	5.8	6.9	1.0	3.4	104	66	101	43	8.1	4.0	5.8
Ac-ft	697	433	1,690	4,800	3,350	15,090	9,890	28,870	18,640	3,260	426	485
(†)	-	-	-	25,840	42,460	57,860	55,460	60,390	59,520	60,020	54,600	24,380

Calendar year 1966: Total 20,015.1 Mean 54.8 Max 336 Min 1.0 Ac-ft 39,700

Water year 1966-67: Total 44,178.3 Mean 121 Max 1,250 Min 1.0 Ac-ft 87,630

† Diversion in acre-feet, to Ralston powerplant furnished by Placer County Water Agency.

Note.--stage-discharge relation indefinite Aug. 1 to Sept. 8.

SACRAMENTO RIVER BASIN

11-4279.4. RUBICON-ROCKBOUND TUNNEL NEAR MEEKS BAY, CALIF.

LOCATION.--Lat 38°59'20", long 120°13'30", in SE¼ sec.8, T.13 N., R.16 E., on right bank at tunnel intake 100 ft upstream from diversion dam on Rubicon River, 2.5 miles upstream from Rubicon Springs, and 6.5 miles southwest of Meeks Bay.

RECORDS AVAILABLE.--December 1963 to September 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is 6,533.23 ft above mean sea level (levels by Sacramento Municipal Utility District). Auxiliary graphic water-stage recorder since Aug. 28, 1966, 300 ft downstream from tunnel outlet at different datum.

EXTREMES.--1963-67: Maximum daily discharge, 1,120 cfs Dec. 23, 1964; no flow for several months in each year.

REMARKS.--Records good. Tunnel diverts water from Rubicon River to Rockbound Lake. Practically all flow below 1,200 cfs is diverted through the tunnel. See schematic diagram for Middle Fork American and Rubicon River basins.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0	119	20	56	32	38	27	238	723	120	3.0
2	0	0	115	19	42	33	34	34	167	734	106	2.3
3	0	0	121	18	35	36	32	49	175	740	96	1.9
4	0	0	90	18	32	31	30	70	319	720	86	1.6
5	0	0	105	19	32	25	30	58	378	702	72	1.7
6	0	0	166	18	30	24	29	64	373	632	60	1.6
7	0	0	138	17	32	27	30	159	475	558	50	1.2
8	0	0	94	16	32	32	30	257	530	511	25	1.0
9	0	0	68	15	31	38	34	328	570	475	4.4	.80
10	7.8	0	60	15	34	37	36	239	603	418	5.2	.66
11	3.8	0	56	16	34	32	32	141	666	394	6.0	.56
12	1.4	0	50	17	36	30	30	85	580	403	6.0	.56
13	.70	0	44	18	36	32	34	80	515	421	6.0	.46
14	.27	0	42	21	37	37	35	118	585	406	6.5	.46
15	.12	0	39	24	32	34	32	226	710	358	18	.46
16	.07	61	38	25	28	414	30	365	796	330	27	9.4
17	0	64	38	23	27	810	27	486	832	288	28	65
18	0	34	38	20	29	457	28	562	812	275	29	25
19	0	21	38	18	30	249	29	548	772	248	25	15
20	0	179	38	18	26	136	27	612	740	203	22	7.0
21	0	88	36	23	24	93	25	775	768	191	20	4.0
22	0	49	34	24	24	89	24	878	751	183	15	2.1
23	0	32	32	34	25	79	23	960	723	189	12	.56
24	0	21	30	37	25	65	23	853	723	187	18	.04
25	0	17	29	30	24	55	22	805	754	163	29	0
26	0	14	28	43	22	47	22	765	754	141	22	0
27	0	12	26	117	23	43	23	713	740	131	17	0
28	0	349	40	110	27	43	24	625	744	133	11	0
29	0	842	33	159	-----	44	23	557	744	141	7.3	0
30	0	299	24	135	-----	40	23	493	751	141	5.4	0
31	0	-----	21	86	-----	38	-----	380	-----	137	4.0	-----
Total	14.16	2082	1830	1173	865	3182	859	12212	18288	11276	956.8	146.36
Mean	0.46	69.4	59.0	37.8	30.9	103	28.6	394	610	364	30.9	4.88
Max	7.8	842	166	159	56	810	38	878	832	740	120	65
Min	0	0	21	15	22	24	22	27	167	131	4.0	0
Ac-ft	28	4130	3630	2330	1720	6310	1700	24,220	36,270	22,370	1,900	290
Cal yr 1966: Total	27,307.96	Mean	76.2	Max	842	Min	0	Ac-ft	55,160			
Wtr yr 1967: Total	52,884.32	Mean	145	Max	878	Min	0	Ac-ft	104,900			

11-4280. RUBICON RIVER AT RUBICON SPRINGS, NEAR MEEKS BAY, CALIF.

LOCATION.--Lat 39°01'10", long 120°14'46", in SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec.31, T.14 N., R.16 E., on right bank 200 ft downstream from Rubicon Springs, 0.7 mile upstream from Miller Creek, and 7 miles west of Meeks Bay.

DRAINAGE AREA.--31.4 sq mi.

RECORDS AVAILABLE.--February 1910 to March 1914 (published as "at Rubicon Springs"), October 1956 to September 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is 6,052.97 ft above mean sea level, datum of 1929. Feb. 1, 1910, to Mar. 31, 1914, staff gage or water-stage recorder at site 0.4 mile downstream at different datum.

AVERAGE DISCHARGE.--14 years (1910-13, 1956-67), 117 cfs (84,700 acre-ft per year), adjusted for diversion into Rubicon-Rockbound tunnel.

EXTREMES.--Maximum discharge during year, 805 cfs June 17 (gage height, 5.37 ft); minimum daily, 0.80 cfs Oct. 4-14.

1910-14, 1956-67: Maximum discharge, 11,500 cfs Feb. 1, 1963 (gage height, 14.28 ft), from rating curve extended above 1,200 cfs on basis of slope-conveyance computation of maximum flow; no flow at times in some years.

Flood of December 1955 reached a stage of 13.0 ft, from floodmarks, present site and datum (discharge, 9,270 cfs).

REMARKS.--Records good. Low summer flow, beginning in 1950, augmented by release from streamflow maintenance dams on Lakes Clyde, Lois, Middle Velma, and Schmidell (total controlled capacity, 555 acre-ft). Flow below 1,200 cfs controlled by Rubicon diversion dam. Diversion to Rubicon-Rockbound tunnel began Dec. 26, 1963 (see sta. no. 4279.4). See schematic diagram for Middle Fork American and Rubicon River basins.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.80	1.0	36	5.8	19	14	13	10	34	98	8.4	7.8
2	.90	1.2	58	5.8	15	15	11	13	27	115	8.1	7.8
3	.90	1.2	52	5.8	13	15	11	19	51	74	8.1	7.8
4	.80	1.2	18	6.0	12	12	11	24	69	31	7.8	8.1
5	.80	1.2	73	6.0	13	11	10	19	87	10	8.2	8.1
6	.80	1.8	62	5.5	13	10	10	32	78	8.7	9.0	7.8
7	.80	1.9	25	5.3	14	11	10	74	78	7.3	9.3	7.8
8	.80	1.7	16	5.3	13	13	11	96	78	6.5	9.3	7.8
9	.80	1.2	14	5.3	14	15	13	79	80	5.8	8.1	7.8
10	.80	1.2	17	5.3	16	15	14	47	89	5.3	6.0	7.8
11	.80	1.2	17	5.8	17	13	12	26	81	4.7	6.5	7.8
12	.80	1.2	14	6.5	18	11	11	21	66	4.3	6.7	7.5
13	.80	1.2	13	7.3	19	11	14	30	72	4.1	7.0	7.5
14	.80	1.2	12	9.0	19	11	14	60	63	9.0	7.0	7.0
15	.90	2.4	11	9.3	14	11	13	108	66	9.3	7.3	6.7
16	1.0	3.8	11	9.3	12	434	11	126	144	9.0	7.3	6.7
17	1.0	4.9	11	7.8	12	171	11	137	284	8.7	7.5	6.5
18	1.0	2.9	12	7.3	13	68	10	116	250	8.4	7.5	8.4
19	1.0	4.5	11	6.7	13	36	10	120	109	8.4	7.5	6.5
20	1.2	2.9	12	7.8	11	28	9.6	159	112	8.1	7.5	6.5
21	1.2	9.6	11	21	10	30	9.3	166	198	8.1	7.5	6.5
22	1.2	7.0	9.6	16	10	31	9.0	190	149	7.8	7.3	6.5
23	1.0	5.5	9.0	12	11	30	8.7	182	91	8.1	7.5	6.5
24	1.0	4.7	9.7	11	10	23	8.7	166	68	8.1	10	6.5
25	1.0	4.1	7.8	11	10	19	8.7	154	184	8.1	8.7	6.5
26	1.0	3.9	7.3	26	9.3	17	8.7	128	183	7.8	8.4	6.5
27	1.0	3.9	6.7	51	9.6	15	10	104	142	7.8	8.4	6.5
28	1.0	125	6.5	29	11	19	9.3	94	129	7.8	8.1	6.5
29	1.0	63	6.2	84	-----	17	8.7	90	136	8.1	8.1	6.5
30	1.0	18	6.2	54	-----	14	8.7	68	152	8.4	8.1	6.5
31	1.0	-----	6.0	35	-----	14	-----	53	-----	8.4	8.1	-----
Total	28.90	344.8	580.0	482.9	370.9	1,154	319.4	2,710	3,349	524.1	244.3	214.7
Mean	0.93	11.5	18.7	15.6	13.2	37.2	10.6	87.4	112	16.9	7.88	7.16
Max	1.2	125	73	84	19	434	14	190	284	115	10	8.1
Min	0.80	1.0	6.0	5.3	9.3	10	8.7	10	27	4.1	6.0	6.5
Ac-ft	57	684	1,150	958	736	2,290	634	5,380	6,640	1,040	485	426
Mean†	1.38	80.8	77.7	53.5	44.3	140	39.2	481	721	381	38.7	12.0
Ac-ft†	85	4,810	4,780	3,290	2,460	8,600	2,330	29,600	42,910	23,410	2,380	716

Cal yr 1966: Total	4,519.9	Mean	12.4	Max	125	Min	0.80	Ac-ft	8,960	Mean†	88.5	Ac-ft†	64,100
Wtr yr 1967: Total	10,323.0	Mean	28.3	Max	434	Min	0.80	Ac-ft	20,480	Mean†	173	Ac-ft†	125,400

† Adjusted for diversion to Rubicon-Rockbound tunnel.

SACRAMENTO RIVER BASIN

11-4283. BUCK-LOON TUNNEL NEAR MEEKS BAY, CALIF.

LOCATION.--Lat 39°00'15", long 120°15'20", in NW¼ sec.6, T.13 N., R.16 E., on right bank at tunnel intake near left abutment of diversion dam, 7.6 miles southwest of Meeks Bay.

RECORDS AVAILABLE.--November 1963 to September 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is 6,425.0 ft above mean sea level (levels by Sacramento Municipal Utility District).

EXTREMES.--1963-67: Maximum daily discharge, 1,240 cfs Dec. 23, 1964; no flow for many days in each year.

REMARKS.--Records fair except those for periods of indefinite stage discharge relation, which are poor. Tunnel diverts from Buck Island Lake and discharges into Loon Lake. Water is used for power development downstream. See schematic diagram for Middle Fork American and Rubicon River basins.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	189	29	124	39	50	33	369	889	150	3.0
2		0	169	27	79	44	43	38	257	889	136	1.7
3		0	182	26	57	46	38	42	223	868	121	1.0
4		0	136	26	50	48	38	57	397	847	112	.80
5		0	161	26	46	39	39	61	527	840	96	.80
6		0	232	26	44	33	38	60	511	822	75	.60
7		0	274	24	45	35	42	110	589	777	55	.60
8		0	194	23	43	38	39	220	622	724	18	.60
9		0	128	22	43	45	39	344	704	687	.40	.60
10		0	100	21	45	51	38	297	736	612	.40	.60
11		0	88	20	46	44	39	174	815	556	.40	.60
12		0	76	22	48	41	37	116	722	557	.40	.60
13		0	66	23	49	43	36	98	601	505	.60	.40
14		0	59	25	50	48	39	121	604	431	.60	.40
15		0	52	28	48	50	39	241	791	385	.60	.40
16		8.1	48	31	39	300	38	392	878	361	2.1	37
17		76	46	32	37	1030	38	550	896	317	16	71
18		87	45	30	33	800	38	686	897	291	28	51
19		57	44	27	40	360	38	686	888	276	33	35
20		197	44	30	38	200	37	753	882	220	34	24
21		197	44	52	33	125	34	970	890	206	32	15
22		119	42	58	33	114	32	1010	889	197	25	9.9
23		75	38	41	34	103	30	1010	881	198	20	5.6
24		54	35	52	34	86	30	1010	882	215	17	2.7
25		42	32	55	32	71	29	998	895	198	22	1.4
26		36	30	51	31	62	28	976	895	172	30	.80
27		32	27	134	31	55	34	953	889	148	30	.60
28		210	51	203	34	58	38	879	893	144	23	.50
29		933	50	253	- - - - -	60	34	788	895	154	15	.40
30		535	38	280	- - - - -	55	32	693	895	157	8.8	.30
31		- - - - -	31	208	- - - - -	54	- - - - -	558	- - - - -	159	5.0	- - - - -
Total	0	2658.1	2751	1905	1270	4177	1104	14,924	21,813	13,801	1,107.30	267.90
Mean	0	88.6	88.7	61.5	45.4	135	36.8	481	727	445	35.7	8.93
Max	0	933	274	280	124	1030	50	1010	897	889	150	71
Min	0	0	27	20	31	33	28	33	223	144	0.40	0.30
Ac-ft	0	5,270	5,460	3,780	2,520	8,280	2,190	29,600	43,270	27,370	2,200	531

Cal yr 1966: Total 35,339.6 Mean 96.8 Max 933 Min 0 Ac-ft 70,100

Wtr yr 1967: Total 65,778.30 Mean 180 Max 1030 Min 0 Ac-ft 130,500

Note: Indefinite stage-discharge relation, Feb. 4 to Mar. 21, Aug. 8 to Sept. 30.

SACRAMENTO RIVER BASIN

939

11-4287. HELL HOLE RESERVOIR NEAR MEEKS BAY, CALIF.

LOCATION.--Lat 30°03'55", long 120°24'50", in SE¼NW¼ sec.16, T.14 N., R.14 E., on right bank 0.3 mile upstream from Hell Hole Dam on Rubicon River and 15.6 miles west of Meeks Bay.

DRAINAGE AREA.--114 sq mi (revised).

RECORDS AVAILABLE.--December 1965 to September 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is at mean sea level (levels by Placer County Water Agency).

EXTREMES.--Maximum contents during year, 209,500 acre-ft June 17 (elevation, 4,631.5 ft); minimum, 143,100 acre-ft May 6 (elevation, 4,572.5 ft).

1965-67: Maximum contents, 209,500 acre-ft June 17, 1967 (elevation, 4,631.5 ft); minimum since initial season of normal operation, 143,100 acre-ft May 6, 1967 (elevation, 4,572.5 ft).

REMARKS.--Reservoir is formed by rockfill dam with earth core. Storage began Dec. 6, 1965. Usable capacity, 202,400 acre-ft between elevations 4,340.0 (minimum operating level) and 4,630.0 ft (crest of ogee spillway) above mean sea level. Dead storage, 248 acre-ft. Records represent total contents. See schematic diagram for Middle Fork American and Rubicon River basins.

Contents, in thousands of acre-feet, at 2400 hours, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	151.9	150.9	159.0	179.4	181.5	172.0	166.7	144.5	194.3	208.6	189.5	160.2
2	152.5	151.5	160.7	178.8	182.4	171.2	166.1	143.8	194.5	208.6	188.4	159.9
3	153.2	152.0	162.3	173.2	183.3	170.5	165.4	143.6	195.1	209.3	187.4	160.6
4	153.9	152.3	162.9	177.5	184.2	169.8	164.8	143.3	196.1	208.1	186.3	161.2
5	154.6	152.8	165.2	176.4	185.0	169.2	165.1	143.2	197.8	208.0	185.2	161.5
6	154.3	153.5	167.6	175.3	185.6	168.4	164.1	143.1	199.5	207.8	184.2	160.3
7	154.5	154.0	169.2	173.9	185.2	167.6	162.7	144.0	201.0	207.5	183.1	159.3
8	154.3	154.6	170.3	172.4	184.9	166.9	161.3	144.7	202.9	207.3	182.1	158.0
9	154.1	154.8	171.4	171.2	183.8	166.1	159.8	146.0	204.3	207.1	180.9	157.5
10	153.8	154.7	172.8	170.1	183.7	165.4	158.5	146.7	206.2	206.7	179.9	158.2
11	153.4	154.7	173.9	169.0	183.7	164.9	157.6	146.6	207.8	206.3	178.7	158.2
12	152.7	154.7	174.9	167.9	183.7	163.7	157.0	146.4	208.6	205.8	177.7	153.0
13	152.4	154.6	175.9	166.7	183.7	162.2	156.3	146.2	208.6	205.5	177.0	157.8
14	151.9	154.6	176.9	166.7	183.3	160.7	155.8	146.5	208.7	205.0	175.9	157.6
15	151.6	154.7	177.8	166.9	182.8	159.6	155.1	147.7	209.0	204.5	174.8	157.0
16	151.5	155.3	178.1	167.3	182.1	165.2	154.3	149.7	209.2	203.8	173.8	157.6
17	151.7	155.4	178.2	167.6	181.0	168.7	153.7	152.2	209.5	203.2	172.7	157.3
18	151.3	155.4	178.9	168.0	180.1	169.7	153.0	154.8	209.3	202.5	171.3	156.8
19	151.0	155.6	178.8	168.1	179.3	169.8	152.7	157.3	209.2	201.7	170.2	156.6
20	150.2	156.5	178.4	168.7	178.6	169.8	152.5	160.8	209.1	200.9	170.6	156.4
21	149.5	156.7	178.0	170.1	177.8	169.7	151.7	164.8	209.2	200.1	169.7	156.2
22	149.8	157.0	177.7	170.5	177.0	169.7	150.9	169.1	209.0	199.9	168.6	156.0
23	150.1	157.1	178.4	170.9	176.3	169.8	150.1	173.2	208.7	198.3	167.2	156.3
24	150.2	157.1	179.4	171.2	175.6	169.6	149.3	177.1	208.8	197.3	166.1	157.1
25	150.0	157.2	180.4	171.4	174.9	169.5	148.5	180.4	209.0	196.5	165.0	157.7
26	149.4	157.3	181.4	172.1	174.1	169.2	147.7	183.5	208.8	195.5	165.4	153.3
27	149.2	157.4	182.2	173.2	173.3	168.6	147.0	186.3	208.7	194.4	165.8	159.0
28	149.2	158.0	181.7	174.1	172.7	168.2	146.2	188.8	208.8	193.5	164.6	159.6
29	149.7	159.3	181.1	176.9	-----	167.6	146.2	191.0	209.0	192.5	163.5	159.7
30	150.2	158.4	180.5	179.0	-----	167.3	145.3	192.6	208.8	191.5	162.4	159.5
31	150.5	-----	180.1	180.4	-----	167.3	-----	193.8	-----	190.4	161.3	-----
(+)	4,580.0	4,587.7	4,607.2	4,607.5	4,600.7	4,595.9	4,574.8	4,618.8	4,631.0	4,616.0	4,590.4	4,588.7
(#)	+0.6	+7.9	+21.7	+0.3	+7.7	+5.4	+22.0	+48.5	+15.0	+18.4	+29.1	+1.8
Max	154.6	158.4	182.2	180.4	185.6	172.0	166.7	193.8	209.5	208.6	189.5	161.5
Min	149.2	150.9	159.0	166.7	172.7	159.6	145.3	143.1	194.3	190.4	161.3	156.0

Calendar year 1966..... # +164.9

Max 182.2

Min -

Water year 1966-67..... # +8.4

Max 209.5

Min 143.1

+ Elevation, in feet, at end of month.

Change in contents, in thousands of acre-feet.

SACRAMENTO RIVER BASIN

11-4288. RUBICON RIVER BELOW HELL HOLE DAM, NEAR MEEKS BAY, CALIF.

LOCATION.--Lat 39°03'25", long 120°24'25", in NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.21, T.14 N., R.14 E., on right bank 600 ft downstream from outlet of dam, 2.4 miles downstream from Cottonwood Creek, and 15.3 miles west of Meeks Bay.

DRAINAGE AREA.--120 sq mi.

RECORDS AVAILABLE.--November 1965 to September 1967.

GAGE.--Graphic water-stage recorder and concrete control. Datum of gage is 4,231.52 ft above mean sea level (levels by Placer County Water Agency).

EXTREMES.--Maximum discharge during year, 2,290 cfs June 18, including flow over spillway; minimum daily, 9.2 cfs Aug. 10-15, 29, 30.

1965-67: Maximum discharge, 2,290 cfs June 18, 1967, including flow over spillway; minimum, no flow Aug. 25 to Sept. 11, 1966.

REMARKS.--Records good. Flow regulated by Hell Hole Reservoir beginning December 1965. Water is diverted from Middle Fork American River basin by tunnel from French Meadows Reservoir (see sta. no. 4274) to Hell Hole Reservoir. Water is diverted out of the basin above the station through Buck-Loon tunnel (see sta. no. 4283). Water is diverted from Hell Hole Reservoir through a tunnel to Middle Fork powerplant. See schematic diagram for Middle Fork American and Rubicon River basins. Records given herein include flow over Hell Hole Dam spillway which bypasses the station.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	29	26	17	14	19	16	18	16	26	994	15	9.6
2	29	19	23	14	18	16	18	17	26	898	15	9.6
3	29	19	20	14	18	16	18	18	25	792	15	9.6
4	29	18	17	14	19	16	18	19	25	437	14	9.6
5	29	17	23	14	19	16	18	20	29	281	14	9.6
6	30	17	30	14	19	16	18	22	27	177	12	10
7	30	17	19	14	18	16	18	23	28	53	9.6	11
8	30	17	17	14	18	16	19	24	27	20	9.6	11
9	30	17	17	14	18	16	19	26	27	20	9.6	11
10	30	17	17	14	18	16	19	26	27	20	9.2	10
11	30	17	16	13	18	16	18	22	41	20	9.2	10
12	30	17	16	13	18	16	18	21	518	20	9.2	10
13	30	17	16	13	18	16	19	21	814	20	9.2	10
14	31	17	16	13	18	16	18	22	873	20	9.2	10
15	31	17	14	13	17	17	17	24	1,070	20	9.2	10
16	31	18	14	13	17	47	17	28	1,340	20	9.6	10
17	31	17	14	13	17	34	17	31	1,740	19	9.6	10
18	31	17	14	13	17	26	17	31	1,990	19	9.6	10
19	31	17	14	13	17	22	17	31	1,680	19	9.6	10
20	31	20	14	15	16	22	16	35	1,490	19	9.6	10
21	31	18	14	26	16	22	16	38	1,450	19	9.6	10
22	32	17	14	16	16	22	16	39	1,440	19	9.6	10
23	32	16	14	16	16	23	16	36	1,130	19	9.6	10
24	32	16	14	15	16	21	16	35	979	19	9.6	10
25	32	15	14	16	16	20	16	34	1,150	19	9.6	10
26	32	15	14	18	16	19	16	33	1,270	16	9.6	10
27	32	15	14	20	16	19	16	32	1,110	15	9.6	10
28	32	18	14	21	16	19	16	31	1,040	15	9.6	10
29	32	19	14	34	-----	19	16	30	1,110	15	9.2	10
30	32	17	14	26	-----	19	16	28	1,260	15	9.2	10
31	33	-----	14	22	-----	19	-----	27	-----	15	9.6	-----
Total	954	524	502	502	485	613	517	840	23,762	4,074	321.8	301.0
Mean	30.8	17.5	16.2	16.2	17.3	19.8	17.2	27.1	792	131	10.4	10.0
Max	33	26	30	34	19	47	19	39	1,990	994	15	11
Min	29	15	14	13	16	16	16	16	25	15	9.2	9.6
Ac-ft	1,990	1,040	996	996	962	1,220	1,020	1,670	47,130	8,080	638	597
(†)	13,250	3,540	15,690	21,480	35,760	59,410	55,050	59,700	59,940	59,040	52,510	22,960

Calendar year 1966: Total 6,692.3 Mean 18.3 Max 180 Min 0 Ac-ft 13,270
 Water year 1966-67: Total 33,395.8 Mean 91.5 Max 1,990 Min 9.2 Ac-ft 66,240

† Diversion, in acre-feet, from Hell Hole Reservoir to Middle Fork powerplant.

Note.-- Month end diversion, in acre-feet, to Middle Fork powerplant. Diversion started Sept. 8, 1966:
 September 1966 ----- 4,040

SACRAMENTO RIVER BASIN

941

11-4293.5. LOON LAKE NEAR WEEKS BAY, CALIF.

LOCATION.--Lat 30°00'17", long 120°18'30", in SW¼NW¼ sec.4, T.13 N., R.15 E., on right bank at Loon Lake Dam on Gerle Creek, 2.3 miles upstream from Jerrett Creek, and 11 miles southwest of Weeks Bay.

DRAINAGE AREA.--7.94 sq mi.

RECORDS AVAILABLE.--December 1963 to September 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is at mean sea level (levels by Sacramento Municipal Utility District).

EXTREMES.--Maximum contents during year, 77,600 acre-ft July 6, 7 (elevation, 6,411.0 ft); minimum, 7,660 acre-ft Nov. 12-14 (elevation, 6,341.1 ft).

1963-67: Maximum contents, 77,600 acre-ft July 6, 7, 1967 (elevation, 6,411.0 ft); minimum since initial season of normal operation, 7,660 acre-ft Nov. 12-14, 1966 (elevation, 6,341.1 ft).

REMARKS.--Reservoir is formed by an earthfill dam completed Dec. 27, 1963. Storage began Dec. 5, 1963. Usable capacity, 74,100 acre-ft between elevations 6,325 (invert of fishwater release valve) and 6,410 ft (crest of spillway) above mean sea level. Dead storage, 2,360 acre-ft. Prior to September 1962, reservoir was formed by granite-block dam built in 1884, capacity, 8,000 acre-ft. See schematic diagram for Middle Fork American and Rubicon River basins.

Contents, in thousands of acre-feet, at 2400 hours, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	20.7	7.84	14.8	13.5	13.4	15.3	23.2	11.1	51.3	76.5	71.4	53.8
2	20.7	7.84	15.4	12.9	13.6	14.8	23.4	11.2	51.9	76.8	71.6	53.0
3	20.5	7.80	16.0	12.1	13.7	14.4	23.5	11.4	52.5	76.9	71.7	52.3
4	20.2	7.80	16.5	11.4	13.8	13.9	23.4	11.6	53.5	77.0	72.0	51.5
5	19.8	7.75	17.2	10.0	13.9	13.5	22.9	11.8	54.9	77.3	72.1	50.8
6	19.4	7.75	18.0	9.58	14.0	13.0	22.4	12.1	56.2	77.6	72.1	49.8
7	19.0	7.75	18.6	9.04	14.1	12.5	21.9	12.7	57.3	77.6	72.0	49.0
8	18.2	7.75	18.9	8.26	14.2	12.0	21.4	13.6	58.5	77.5	71.3	48.2
9	17.4	7.75	19.3	7.94	14.3	11.5	20.8	14.8	59.5	77.5	70.5	47.4
10	16.6	7.71	19.5	7.98	14.4	11.4	20.3	15.6	60.5	77.3	69.8	46.6
11	15.6	7.71	19.8	8.03	14.5	11.7	19.8	16.1	61.8	77.3	68.9	45.8
12	14.9	7.66	19.9	8.07	14.6	11.9	19.2	16.5	63.0	77.3	68.3	45.0
13	14.2	7.66	20.1	8.17	14.7	12.2	18.5	16.8	64.0	77.3	67.6	44.1
14	13.5	7.66	20.3	8.26	14.9	12.3	18.0	17.3	64.8	77.3	67.0	43.5
15	12.7	7.71	20.4	8.30	15.0	12.6	17.6	18.2	66.0	77.3	66.2	42.7
16	12.0	7.84	20.5	8.40	15.1	14.3	17.0	19.6	66.9	77.2	65.4	42.1
17	11.1	7.98	20.6	8.49	15.2	17.4	16.5	21.4	67.8	77.0	64.8	41.5
18	10.3	8.12	20.7	8.58	15.3	18.7	16.0	23.2	68.6	77.0	64.0	40.9
19	9.36	8.40	20.9	8.63	15.3	19.7	15.4	25.1	69.3	76.9	63.4	40.2
20	8.49	8.90	20.9	8.86	15.4	20.3	15.0	27.2	70.2	76.5	62.7	39.5
21	8.12	9.41	21.0	9.22	15.5	20.7	14.5	29.7	70.9	76.1	61.9	38.7
22	8.07	9.68	20.9	9.36	15.6	21.1	14.1	32.0	71.6	75.4	61.2	38.1
23	8.07	9.86	19.9	9.45	15.7	21.4	13.6	34.3	72.3	74.8	60.5	37.3
24	8.07	9.98	19.3	9.74	15.7	21.7	13.1	36.7	72.8	74.4	59.8	36.6
25	8.03	10.0	18.5	9.92	15.8	22.0	12.5	39.1	73.5	74.0	59.0	35.8
26	8.03	10.1	17.6	10.2	15.8	22.1	11.7	41.4	74.1	73.7	58.2	35.0
27	7.98	10.2	16.8	10.6	15.8	22.3	11.1	43.6	74.7	73.1	57.6	34.3
28	7.98	10.9	16.1	11.1	15.7	22.5	10.8	45.6	75.1	72.7	56.8	33.8
29	7.94	13.2	15.4	11.9	-----	22.7	10.8	47.5	75.6	72.4	56.0	33.0
30	7.94	14.3	14.8	12.7	-----	22.9	10.9	49.0	76.1	72.0	55.4	33.0
31	7.89	-----	14.1	13.2	-----	23.0	-----	50.8	-----	71.6	54.5	-----
(†)	6,341.5	6,353.0	6,352.7	6,351.1	6,355.3	-----	6,347.4	6,390.4	6,409.9	6,406.7	6,393.6	6,374.7
(‡)	+12.81	+6.41	+0.2	+0.9	+2.5	+7.3	+12.1	+39.6	+25.6	+4.5	+17.1	+21.5
Max	20.7	14.3	21.0	13.5	15.8	23.0	23.5	50.5	76.1	77.6	72.1	53.8
Min	7.89	7.66	14.1	8.03	13.4	11.4	10.8	11.1	51.3	71.6	54.5	33.0

Calendar year 1966..... † = 6.8

Water year 1966-67..... † = 12.3

Max 77.6

Max 64.5

Min 7.66

Min 7.66

† Elevation in feet, at end of month.

‡ Change in contents, in thousands of acre-feet.

SACRAMENTO RIVER BASIN

11-4295. GERLE CREEK BELOW LOON LAKE DAM, NEAR MEEKS BAY, CALIF.

LOCATION.--Lat 39°00'20", long 120°18'52", in NE $\frac{1}{4}$ sec.5, T.13 N., R.15 E., on right bank 0.3 mile downstream from Loon Lake Dam and 11 miles southwest of Meeks Bay.

DRAINAGE AREA.--8.01 sq mi.

RECORDS AVAILABLE.--July 1910 to April 1914 (fragmentary), August 1962 to September 1967. Prior to August 1962, published as "near Rubicon Springs."

GAGE.--Graphic water-stage recorder. Altitude of gage is 6,250 ft (from topographic map). Prior to August 1962, staff gage at site about 1,400 ft upstream at different datum.

EXTREMES.--Maximum discharge during year, 839 cfs July 5 (gage height, 7.93 ft); minimum daily, 7.9 cfs Jan. 10, 11, Sept. 30.

1910-14, 1962-67: Maximum discharge, 3,240 cfs Feb. 1, 1963 (gage height, 12.65 ft), from rating curve extended above 600 cfs on basis of slope-area measurement of maximum flow; no flow Oct. 15, 1913.

REMARKS.--Records excellent. Flow regulated, beginning 1884, by Loon Lake (see sta. no. 4293.5). Original dam was dismantled during September and October 1962 to permit construction of a new earthfill dam which was completed Dec. 27, 1963. Storage began Dec. 5, 1963. Loon Lake receives water from Rubicon River via Rubicon-Rockbound tunnel to Buck Lake and from Buck Lake to Loon Lake via Buck-Loon tunnel (see sta. nos. 4279.4 and 4283). See schematic diagram for Middle Fork American and Rubicon River basins.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9.8	8.2	10	363	9.5	297	11	9.5	14	480	171	356
2	9.8	9.2	11	360	9.5	296	11	9.8	14	524	13	353
3	57	9.2	10	366	9.5	292	11	9.8	15	675	12	358
4	141	9.2	9.8	370	9.5	290	150	9.8	15	806	10	353
5	173	8.2	11	366	9.5	288	312	9.8	16	613	10	354
6	140	8.2	12	362	9.3	286	310	10	15	665	9.5	354
7	185	8.2	10	356	9.3	284	309	11	119	712	165	354
8	362	8.2	10	350	9.3	280	308	11	302	675	352	354
9	353	8.2	10	155	9.3	278	306	11	350	635	356	354
10	370	8.2	10	7.9	9.3	136	304	11	350	573	357	352
11	376	8.2	10	7.9	9.3	9.0	303	11	351	520	356	356
12	374	8.2	10	8.2	9.3	9.3	302	11	352	488	356	357
13	374	8.2	10	8.2	9.5	9.3	300	11	354	504	356	353
14	374	8.2	10	8.2	9.5	9.3	297	12	414	526	357	358
15	372	8.7	10	8.2	9.5	9.5	297	12	456	482	356	356
16	368	9.8	10	8.2	9.5	17	296	13	456	426	356	354
17	378	8.5	10	8.2	9.3	12	292	13	453	380	354	352
18	386	8.5	10	8.2	9.3	11	291	13	460	309	354	354
19	378	8.7	10	8.2	9.5	11	290	14	462	390	352	356
20	370	9.0	10	8.2	9.5	11	288	15	464	453	352	356
21	157	8.7	10	8.5	9.3	10	285	15	464	470	354	357
22	8.2	8.7	155	8.5	9.3	11	282	15	464	522	357	357
23	8.2	8.7	404	8.5	9.3	11	280	15	464	522	352	356
24	8.2	8.7	400	8.7	9.3	10	273	16	466	424	352	354
25	8.2	8.7	396	8.7	9.5	10	310	15	468	357	352	354
26	8.2	9.5	388	9.0	9.5	10	343	15	470	357	352	356
27	8.2	9.5	384	9.5	9.5	10	344	15	470	357	352	356
28	8.2	11	380	9.3	148	11	176	15	470	357	352	357
29	8.2	10	375	10	-----	11	9.8	15	470	356	354	191
30	8.2	9.5	372	10	-----	10	9.5	15	474	356	357	7.9
31	8.2	-----	369	9.8	-----	11	-----	14	-----	356	354	-----
Total	5794.6	259.0	3836.8	3238.1	401.9	2950.4	7310.3	392.7	10117	15280	8892.5	10154.9
Mean	187	8.63	124	104	14.4	95.2	244	12.7	337	493	287	338
Max	386	11	404	370	148	297	348	16	474	806	357	358
Min	8.2	8.2	9.8	7.9	9.3	9.0	9.5	9.5	14	309	9.5	7.9
Ac-ft	11490	514	7610	6420	797	5850	14500	779	20070	30310	17640	20140

Cal yr 1966: Total 43,161.5 Mean 113 Max 413 Min 7.9 Ac-ft 85,610
 Wtr yr 1967: Total 68,628.2 Mean 183 Max 806 Min 7.9 Ac-ft 136,100

SACRAMENTO RIVER BASIN

943

11-4298. ROBBS PEAK POWERPLANT NEAR KYBURZ, CALIF.

LOCATION.--Lat 38°53'46", long 120°22'40", in SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.11, T.12 N., R.14 E., in powerhouse on shore of Union Valley Reservoir, 9.5 miles northwest of Kyburz.

RECORDS AVAILABLE.--October 1962 to September 1967. Prior to October 1965 published as Robbs Peak Tunnel near Riverton.

GAGE.--Discharge computed from powerplant output. Altitude of gage is 4,880 ft (from topographic map). Prior to October 1965, graphic water-stage recorder and concrete control in abandoned section of canal one-half mile upstream at different datum.

EXTREMES.--1962-67: Maximum daily discharge, 1,440 cfs Dec. 22-24, 1964; no flow for several days in 1965-67.

REMARKS.--Tunnel diverts at South Fork Rubicon River diversion dam in NE $\frac{1}{4}$ sec.27, T.13 N., R.14 E., and discharges into Union Valley Reservoir (see sta. no. 4410.01). Water is imported from Rubicon River basin via Rubicon-Rockbound tunnel and Buck-Loon tunnel to Loon Lake, thence via Gerle Creek and Robbs Peak tunnel and powerplant to South Fork American River basin for power development. See schematic diagrams for Middle Fork American and Rubicon River basins and South Fork American River basin.

COOPERATION.--Records furnished by Sacramento Municipal Utility District.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0	0	385	270	391	140	75	190	759	0	325
2	0	0	0	385	190	418	142	112	0	759	0	325
3	0	0	0	380	147	410	127	135	148	801	0	332
4	0	0	0	400	113	386	142	127	649	880	0	332
5	0	0	0	391	149	385	334	142	850	862	0	323
6	0	0	326	385	114	318	415	172	734	730	0	323
7	30	0	262	385	177	385	398	340	647	763	0	332
8	285	0	60	366	134	385	400	493	835	810	198	323
9	344	0	0	310	135	385	410	544	900	759	410	323
10	340	0	0	16	165	368	410	411	894	708	390	332
11	337	0	0	37	187	75	405	258	886	645	275	332
12	345	0	0	16	173	15	395	218	844	143	370	323
13	360	0	8.0	30	129	90	410	232	918	0	360	323
14	347	0	8.0	75	165	80	410	328	892	0	360	323
15	360	0	60.	30	139	88	401	590	942	0	305	323
16	332	0	30	60	110	189	373	802	998	0	390	323
17	348	0	98	16	105	930	368	845	1030	183	355	323
18	345	0	45	37	105	845	360	855	1010	282	375	323
19	360	0	75	37	120	405	385	854	934	265	360	323
20	360	0	45	37	98	326	360	850	898	430	370	323
21	292	0	68	110	105	282	360	985	904	414	370	323
22	8.0	0	75	0	52	338	360	1000	882	442	370	323
23	0	0	372	97	90	342	360	950	860	455	370	323
24	8.0	0	456	0	120	264	360	850	856	435	330	309
25	0	0	380	0	98	220	348	715	860	333	365	330
26	0	0	410	10	90	205	388	595	842	302	365	330
27	0	0	400	228	60	187	330	785	816	356	365	330
28	0	0	407	305	118	208	387	775	818	338	360	330
29	0	125	409	570	-----	180	56	688	810	310	360	280
30	0	0	385	615	-----	143	105	597	787	341	360	56
31	0	-----	382	475	-----	135	-----	460	-----	210	360	-----
Total	4,801.0	125	4,761	6,188	3,658	9,378	9,839	16,783	23,634	13,715	8,493	9,443
Mean	155	4.17	154	200	131	303	328	541	788	442	274	315
Max	360	125	456	615	270	930	415	1,000	1,030	880	410	332
Min	0	0	0	0	52	15	56	75	0	0	0	56
Ac-ft	9,520	248	9,440	12,270	7,260	18,600	19,520	33,290	46,880	27,200	16,850	18,730

Cal yr 1966: Total 59,793 Mean 164 Max 734 Min 0 Ac-ft 118,600
 Wtr yr 1967: Total 110,818 Mean 304 Max 1,030 Min 0 Ac-ft 219,800

Note.--Discharge record June 3 to July 12 obtained from graphic water-stage recorder at site used prior to Oct. 1965.

SACRAMENTO RIVER BASIN

11-4300. SOUTH FORK RUBICON RIVER BELOW GERLE CREEK, NEAR GEORGETOWN, CALIF.

LOCATION.--Lat 38°57'15", long 120°24'00", in SW¼SW¼ sec.22, T.13 N., R.14 E., on left bank 600 ft downstream from Gerle Creek and 18 miles east of Georgetown.

DRAINAGE AREA.--47.6 sq mi.

RECORDS AVAILABLE.--February 1910 to June 1914 (published as Little South Fork Rubicon River below Gerle Creek near Quintette), August 1961 to September 1967.

GAGE.--Digital water-stage recorder. Altitude of gage is 4,970 ft (from topographic map). Feb. 1, 1910, to June 21, 1914, staff gage at site about 700 ft downstream at different datum. August 1961 to July 29, 1967, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--5 years (1962-67), 26.2 cfs (18,970 acre-ft per year), unadjusted.

EXTREMES.--Maximum discharge during year, 2,210 cfs Mar. 16 (gage height, 7.45 ft); minimum daily, 2.7 cfs Nov. 11-13.

1910-14, 1961-67: Maximum discharge, 11,500 cfs Jan. 31, 1963 (gage height, 12.32 ft), from rating curve extended above 2,500 cfs on basis of slope-area measurement of maximum flow; minimum, 0.8 cfs Sept. 21, 1962.

REMARKS.--Records good. Flow regulated, beginning 1884, by Loon Lake (former capacity, 8,000 acre-ft; present capacity, 74,100 acre-ft) except November 1962 to December 1963 during which period flow was regulated only by natural storage in the original lake. Prior to Dec. 3, 1961, water was diverted out of the basin in Georgetown Divide ditch. Robbs Peak Tunnel (see sta. no. 4298) began diversion of up to 1,320 cfs to Silver Creek basin October 1962. See schematic diagram for Middle Fork American and Rubicon River basins.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8.2	5.3	9.4	7.2	12	7.4	5.6	4.5	61	9.7	10	11
2	8.2	5.0	167	7.0	11	7.6	5.5	5.1	285	9.9	17	11
3	3.0	5.0	106	7.0	9.7	7.6	5.5	6.8	260	9.7	16	11
4	7.2	4.5	10	7.0	9.3	7.2	5.5	7.8	13	9.9	15	11
5	7.6	3.3	22	7.0	9.1	7.0	5.3	7.8	16	9.9	14	11
6	8.9	4.3	37	7.0	8.9	7.0	5.5	8.9	14	9.5	12	11
7	8.4	3.7	13	7.0	8.9	7.0	5.3	10	12	77	7.6	11
8	8.9	3.4	10	6.8	8.6	7.2	5.5	12	12	9.5	8.6	11
9	8.6	2.9	9.5	6.8	8.6	7.2	5.5	13	13	9.3	9.7	11
10	8.4	2.8	24	6.8	8.4	7.4	5.3	15	13	9.3	10	11
11	8.4	2.7	101	6.6	8.4	7.8	5.1	11	12	9.3	11	11
12	8.9	2.7	76	6.4	8.4	9.5	5.3	11	13	313	11	11
13	8.9	2.7	50	5.8	8.6	4.5	5.5	11	12	532	11	11
14	8.4	2.9	7.8	5.8	8.6	11	5.5	13	12	556	11	11
15	7.8	3.7	7.2	5.8	7.8	9.7	5.1	14	12	520	11	11
16	7.6	6.6	7.2	5.8	7.6	1,220	5.0	15	12	463	11	11
17	7.8	3.9	7.2	5.8	7.6	602	5.0	17	12	159	11	11
18	3.0	11	7.0	5.8	7.6	52	5.1	13	12	8.6	11	12
19	3.2	15	6.8	5.8	7.4	10	4.8	13	11	10	11	11
20	8.4	50	6.8	7.8	7.2	9.1	4.8	84	11	10	11	11
21	8.0	32	6.6	24	7.2	8.9	4.8	226	11	10	11	11
22	7.4	24	6.4	12	7.2	8.6	4.6	189	11	10	11	11
23	7.4	18	6.4	9.5	7.2	11	4.6	49	11	11	11	11
24	7.2	16	6.4	9.7	7.2	9.1	4.6	34	10	11	11	11
25	7.4	11	6.2	8.4	7.2	7.8	4.5	27	10	10	11	11
26	7.2	3.6	6.2	9.5	7.2	7.4	4.6	13	10	10	11	11
27	6.6	3.0	6.0	11	7.2	7.0	4.8	17	10	11	11	11
28	6.8	122	7.2	11	7.4	8.0	4.5	16	10	11	11	11
29	6.8	326	8.9	38	-----	6.8	4.3	16	10	11	11	11
30	6.4	83	7.0	23	-----	6.4	4.3	15	10	12	11	11
31	6.2	-----	7.4	16	-----	6.0	-----	16	-----	11	11	-----
Total	242.2	785	844.2	303.1	231.5	2,135.7	151.3	925.9	921	2,867.6	350.9	331
Mean	7.81	26.2	27.2	9.78	8.27	68.9	5.04	29.9	30.7	92.5	11.3	11.0
Max	8.9	326	167	38	12	1,220	5.6	226	285	556	17	12
Min	6.2	2.7	6.0	5.8	7.2	6.0	4.3	4.5	10	8.6	7.6	11
Ac-ft	480	1,560	1,670	601	459	4,240	300	1,840	1,830	5,690	696	657

Cal yr 1966: Total 4,130.4 Mean 11.3 Max 326 Min 2.7 Ac-ft 8,190
 Wtr yr 1967: Total 10,089.4 Mean 27.6 Max 1,220 Min 2.7 Ac-ft 20,010

11-4318. PILOT CREEK ABOVE STUMPY MEADOWS RESERVOIR, CALIF.

LOCATION.--Lat 38°53'41", long 120°34'02", in NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec.18, T.12 N., R.13 E., on right bank 2.1 miles upstream from Stumpy Meadows dam and 12.5 miles east of Georgetown.

DRAINAGE AREA.--11.7 sq mi.

RECORDS AVAILABLE.--October 1960 to September 1967.

GAGE.--Graphic water-stage recorder. Altitude of gage is 4,280 ft (from topographic map).

AVERAGE DISCHARGE.--7 years, 23.9 cfs (17,300 acre-ft per year).

EXTREMES.--Maximum discharge during year, 344 cfs Mar. 16 (gage height, 3.14 ft); minimum daily, 2.4 cfs Oct. 1, 4, 9-11.

1960-67: Maximum discharge, 2,380 cfs Dec. 23, 1964 (gage heights, 5.92 ft, in gage well, 6.6 ft, from floodmarks), from rating curve extended above 170 cfs on basis of slope-area measurement of maximum flow; maximum gage height, 8.05 ft Jan. 31, 1963; minimum discharge, 1.9 cfs Aug. 20-26, Sept. 4-7, 10, 1966.

REMARKS.--Records good. No regulation or diversion above station. See schematic diagram for Middle Fork American and Rubicon River basins.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.4	2.5	23	8.0	122	24	53	31	82	23	11	7.1
2	2.5	2.6	84	8.0	94	24	50	34	75	23	10	6.8
3	2.5	2.5	70	7.7	76	24	47	39	70	22	10	7.1
4	2.4	2.5	30	7.7	65	23	46	42	70	22	9.6	7.1
5	2.5	2.6	99	8.0	56	22	44	44	91	20	9.6	8.0
6	2.5	6.4	130	7.7	49	21	45	47	85	19	10	7.1
7	2.5	7.1	82	7.1	44	21	44	61	73	19	10	7.1
8	2.5	4.8	48	6.8	42	21	43	80	68	19	9.6	7.1
9	2.4	4.3	38	6.8	39	22	43	106	65	19	9.2	6.8
10	2.4	3.9	33	6.8	38	24	43	146	62	18	9.2	6.8
11	2.4	4.1	29	6.8	38	27	41	130	59	18	8.8	6.8
12	2.5	3.9	24	6.8	38	29	40	115	57	17	9.2	6.8
13	2.6	3.9	21	6.8	38	30	41	106	53	16	9.6	6.5
14	2.8	3.9	19	6.5	39	24	42	107	50	16	9.2	6.8
15	2.8	6.0	18	6.5	36	24	40	122	47	15	8.8	6.8
16	2.8	22	16	6.5	35	233	38	150	46	15	8.4	6.5
17	2.8	10.0	15	6.2	34	227	39	171	43	15	8.4	6.8
18	2.8	7.6	14	6.2	34	152	40	180	42	14	8.0	10
19	2.8	7.1	14	6.2	33	120	38	180	40	14	7.4	7.7
20	2.8	23	13	17	30	102	36	192	38	14	7.4	7.1
21	2.8	18	13	165	30	91	35	204	35	13	7.4	7.1
22	2.9	16	12	91	28	85	34	202	34	13	7.4	7.1
23	2.9	10	12	58	27	99	34	190	33	13	7.4	7.4
24	2.8	8.6	11	48	26	96	34	173	31	12	7.4	7.4
25	2.8	7.9	10	39	26	86	33	154	30	12	8.0	7.4
26	2.8	7.1	10	43	25	80	32	138	30	12	7.7	6.8
27	2.8	6.8	10	49	24	73	33	126	26	12	8.0	6.8
28	2.8	17	10	51	24	72	31	116	26	12	8.0	6.8
29	2.8	31	9.2	152	---	66	30	104	26	12	7.7	6.8
30	2.8	16	8.8	181	---	61	30	91	25	11	7.1	6.8
31	2.6	---	8.4	167	---	58	---	88	---	11	7.1	---
Total	82.5	269.1	934.4	1194.1	1190	2061	1179	3669	1512	492	266.6	213.2
Mean	2.66	8.97	30.1	38.5	42.5	66.5	39.3	118	50.4	15.9	8.60	7.11
Max	2.9	31	130	181	122	233	53	204	91	23	11	10
Min	2.4	2.5	8.4	6.2	24	21	30	31	25	11	7.1	6.5
Ac-ft	164	534	1850	2370	2360	4090	2340	7280	3000	976	529	423

Cal yr 1966: Total 5,058.9 Mean 13.9 Max 130 Min 1.9 Ac-ft 10,030
Wtr yr 1967: Total 13,062.9 Mean 35.8 Max 233 Min 2.4 Ac-ft 25,910

Peak discharge (base, 100 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-02	2300	2.56	173	3-16	2100	3.14	344
12-06	1500	2.66	197	5-10	0600	2.44	148
1-21	1000	2.78	229	5-21	2100	2.78	229
1-30	1800	2.80	235	6-05	1800	2.25	111

SACRAMENTO RIVER BASIN

11-4330.4. PILOT CREEK BELOW MUTTON CANYON, NEAR GEORGETOWN, CALIF.

LOCATION.--Lat 38°55'25", long 120°38'27", in NE $\frac{1}{4}$ sec.4, T.12 N., R.12 E., on left bank 450 ft downstream from Mutton Canyon, 500 ft downstream from Georgetown Divide diversion dam, 2.5 miles downstream from Stumpy Meadows dam, and 10 miles east of Georgetown.

DRAINAGE AREA.--21.1 sq mi.

RECORDS AVAILABLE.--June 1961 to September 1967.

GAGE.--Graphic water-stage recorder. Altitude of gage is 3,760 ft (from topographic map).

AVERAGE DISCHARGE.--6 years, 28.5 cfs (20,630 acre-ft per year).

EXTREMES.--Maximum discharge during year, 382 cfs Mar. 16 (gage height, 5.08 ft); minimum daily, 0.20 cfs Nov. 1-5.

1961-67: Maximum discharge, 5,430 cfs Dec. 22, 1964 (gage height, 9.60 ft), from rating curve extended above 150 cfs on basis of slope-area measurement at gage height 5.00 ft; maximum gage height, 10.06 ft Dec. 23, 1964; minimum daily discharge, 0.20 cfs Sept. 24, Nov. 1-5, 1966.

REMARKS.--Records good. Flow regulated by Stumpy Meadows Reservoir (usable capacity, 20,000 acre-ft) completed in November 1961. Georgetown Irrigation District ditch (capacity, about 20 cfs) diverts water out of Pilot Creek, 500 ft above station. See schematic diagram for Middle Fork American and Rubicon River basins.

REVISIONS (water year).--1965 report: 1962.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.5	0.20	5.5	1.5	185	16	101	56	106	19	5.7	4.3
2	.90	.20	24	1.3	166	16	86	57	92	18	5.7	4.3
3	.90	.20	15	1.3	150	16	79	61	81	16	5.7	4.3
4	.80	.20	5.9	1.3	120	14	78	69	73	14	5.3	4.6
5	.60	.20	26	1.3	97	14	81	76	110	12	5.3	5.0
6	.30	3.1	41	1.9	79	12	37	79	105	10	5.3	4.6
7	.30	.80	17	1.9	68	12	96	94	86	8.4	5.3	4.6
8	.40	.50	11	1.9	58	12	78	120	75	7.5	5.0	4.6
9	.40	.40	7.5	1.3	54	14	70	152	69	7.1	5.0	3.7
10	.40	.40	7.1	1.3	50	19	72	250	65	6.4	5.3	3.4
11	.40	.40	5.1	1.3	47	55	72	235	62	6.1	6.4	3.4
12	.40	.40	3.7	1.3	46	55	68	208	58	5.7	6.4	3.2
13	.30	.40	3.1	1.3	45	52	65	185	57	4.6	6.1	3.0
14	.30	.40	2.8	1.3	51	36	69	175	52	3.9	6.1	3.0
15	.30	.70	2.3	1.1	46	31	72	180	49	3.9	6.1	3.0
16	.30	7.4	2.1	1.1	43	211	66	208	47	3.9	5.7	2.9
17	.70	1.9	2.1	1.1	39	304	79	241	46	3.9	5.7	4.1
18	1.1	.80	2.1	1.3	36	232	89	253	47	6.1	5.0	4.6
19	.90	1.7	1.9	1.3	34	180	79	244	46	5.7	5.0	3.4
20	.40	13	1.9	7.5	29	150	68	244	41	3.7	4.6	3.2
21	.40	10	1.9	76	26	140	63	247	37	5.0	4.6	3.0
22	.40	9.6	1.7	36	25	134	63	247	35	8.0	4.6	3.2
23	.40	2.3	1.7	21	24	144	66	232	31	7.5	4.6	3.6
24	.30	1.3	1.7	19	24	146	68	202	29	7.1	4.6	3.9
25	.30	.90	1.7	16	27	136	63	182	26	6.8	4.6	3.9
26	.30	.80	1.7	19	22	128	58	164	25	6.4	4.6	3.7
27	.30	.80	1.7	21	19	120	60	146	22	6.4	4.6	3.6
28	.30	2.5	1.7	22	18	119	60	134	21	6.1	4.3	3.6
29	.30	7.1	1.7	73	- - - -	116	57	120	21	6.1	4.3	2.7
30	.30	2.5	1.7	74	- - - -	114	56	106	19	6.1	4.3	2.5
31	.30	- - - -	1.5	123	- - - -	118	- - - -	112	- - - -	6.1	4.3	- - - -
Total	15.20	71.10	205.8	531.6	1628	2865	2169	5079	1633	237.5	160.1	110.9
Mean	.49	2.37	6.64	17.1	53.1	92.4	72.3	164	54.4	7.66	5.16	3.70
Max	1.5	13	41	123	185	304	101	253	110	19	6.4	5.0
Min	.30	.20	1.5	1.1	13	12	56	56	19	3.7	4.3	2.5
Ac-ft	30	141	408	1050	3230	5680	4300	10070	3240	471	319	220

Cal yr1966 : Total 3,540.40 Mean 9.70 Max 109 Min 0.20 Ac-ft 7,020
 Wtr yr1967 : Total 14,706.20 Mean 40.3 Max 304 Min 0.20 Ac-ft 29,170

SACRAMENTO RIVER BASIN

947

11-4330.6. SOUTH FORK LONG CANYON CREEK DIVERSION TUNNEL NEAR VOLCANOVILLE, CALIF.

LOCATION.--Lat 39°03'04", long 120°28'14", in SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec.24, T.14 N., R.13 E., on right bank at diversion dam, 3.3 miles upstream from confluence with North and South Forks Long Canyon Creek, and 17.2 miles east of Volcanoville.

DRAINAGE AREA.--7.10 sq mi.

RECORDS AVAILABLE.--October 1965 to September 1967.

GAGE.--Graphic water-stage recorder. Altitude of gage is 4,630 ft (from topographic map).

EXTREMES.--1965-67: Maximum daily discharge, 122 cfs May 17; no flow for part of each year.

REMARKS.--Records good. 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 for Middle Fork American and Rubicon River basins.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	6.2	26	19	32	16	70	0		
2			27	5.8	24	20	30	19	64	0		
3			23	5.8	23	20	23	24	62	0		
4			7.6	5.8	22	13	23	24	62	0		
5			35	5.6	22	17	26	25	72	0		
6			45	5.0	22	17	26	35	67	0		
7			33	5.0	22	17	26	51	67	0		
8			20	5.0	22	17	26	74	74	0		
9			15	5.0	22	19	27	81	71	0		
10			13	5.0	22	13	26	76	69	2.5		
11			13	5.2	21	17	24	56	69	5.0		
12			15	5.8	22	16	24	50	69	3.8		
13			14	3.6	22	15	25	50	79	3.0		
14			14	0	21	17	25	63	65	2.3		
15			12	0	21	13	24	92	65	1.7		
16			12	0	24	31	22	117	69	1.3		
17			12	0	26	9.6	22	122	67	.60		
18			11	0	26	7.6	22	109	62	20		
19			11	0	24	7.2	21	100	60	0		
20			11	0	23	7.2	20	71	57	0		
21			11	0	22	7.2	20	28	59	0		
22			9.6	0	22	7.2	19	20	26	0		
23			9.2	0	20	7.6	13	13	0	0		
24			8.8	0	20	7.6	13	14	0	0		
25			8.2	0	20	7.6	13	12	0	0		
26			7.6	0	19	7.6	13	74	0	0		
27			7.2	0	13	7.6	13	114	0	0		
28			6.8	0	19	7.6	16	99	0	0		
29			6.5	0	---	7.6	16	87	0	0		
30			6.5	15	---	22	15	77	0	0		
31		-----	6.2	30	-----	34	-----	74	-----	0		-----
Total	0	0	441.2	113.8	617	450.2	680	1,372	1,425	20.40	0	0
Mean	0	0	14.2	3.67	22.0	14.5	22.7	60.4	47.5	0.66	0	0
Max	0	0	45	30	26	34	32	122	79	5.0	0	0
Min	0	0	0	0	13	7.2	15	16	0	0	0	0
Ac-ft	0	0	875	226	1,220	393	1,350	3,710	2,330	40	0	0
Cal yr 1966: Total	2,732.3		Mean 7.49	Max 83	Min 0	Ac-ft 5,420						
Wtr yr 1967: Total	5,619.6		Mean 15.4	Max 122	Min 0	Ac-ft 11,150						

SACRAMENTO RIVER BASIN

11-4330.8. NORTH FORK LONG CANYON CREEK DIVERSION TUNNEL NEAR VOLCANOVILLE, CALIF.

LOCATION.--Lat 39°02'57", long 120°28'56", in SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec.24, T.14 N., R.13 E., on left bank at diversion dam, 3.2 miles upstream from confluence of North and South Forks Long Canyon Creek, and 16.9 miles east of Volcanoville.

DRAINAGE AREA.--3.50 sq mi.

RECORDS AVAILABLE.--October 1965 to September 1967.

GAGE.--Graphic water-stage recorder. Altitude of gage is 4,700 ft (from topographic map).

EXTREMES.--1966-67: Maximum daily discharge, 54 cfs May 27; no flow for part of each year.

REMARKS.--Records excellent. No regulation or diversion above station. Tunnel completed in September 1965 and diversions began in February 1966. Flow is diverted from North Fork Long Canyon Creek to a tunnel from Hell Hole Reservoir to Middle Fork powerplant on the Middle Fork American River. See schematic diagram for Middle Fork American and Rubicon River basins.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	1.8	2.0	10	14	6.6	29			
2			13	1.7	2.0	11	13	9.5	25			
3			15	1.6	2.2	10	13	14	25			
4			8.1	1.7	2.2	6.8	12	14	28			
5			14	1.6	2.3	6.4	11	14	43			
6			8.5	1.3	2.3	6.6	11	23	36			
7			6.4	1.2	2.4	9.1	11	34	33			
8			6.8	1.1	2.4	9.5	11	36	31			
9			6.8	1.1	2.4	9.7	12	38	30			
10			7.2	1.1	2.4	9.5	12	38	28			
11			7.5	1.3	2.5	8.3	11	28	28			
12			7.5	2.0	2.5	7.7	11	25	29			
13			6.8	1.0	2.6	7.3	13	28	35			
14			7.0	0	2.6	6.8	13	34	28			
15			6.6	0	2.6	7.3	11	40	26			
16			6.6	0	8.3	6.7	10	28	25			
17			6.4	0	14	1.7	10	18	24			
18			6.4	0	14	1.4	11	15	22			
19			6.4	0	13	1.5	8.9	14	19			
20			5.9	0	12	1.6	8.1	13	17			
21			5.2	0	11	1.7	7.9	11	15			
22			4.9	0	11	1.7	7.5	9.7	7.0			
23			4.4	0	11	1.7	7.3	8.9	20			
24			3.9	0	9.7	1.7	7.0	8.5	0			
25			3.5	0	9.1	1.7	6.6	8.7	0			
26			2.9	0	8.7	1.8	6.6	41	0			
27			2.5	0	9.1	1.8	6.6	54	0			
28			2.2	23	10	1.9	6.2	48	0			
29			2.2	12	-----	1.9	5.9	43	0			
30			2.0	24	-----	9.4	5.9	38	0			
31		-----	1.9	2.0	-----	16	-----	35	-----			-----
Total	0	0	188.5	57.9	176.3	180.2	294.5	775.9	583.20	0	0	0
Mean	0	0	6.08	1.87	6.30	5.81	9.82	25.0	19.4	0	0	0
Max	0	0	15	23	14	16	14	54	43	0	0	0
Min	0	0	0	0	2.0	1.4	5.9	6.6	0	0	0	0
Ac-ft	0	0	374	115	350	357	584	1540	1160	0	0	0
Cal yr 1966: Total	981.20		Mean	2.69	Max	23	Min	0	Ac-ft	1,950		
Wtr yr 1967: Total	2,256.50		Mean	6.18	Max	54	Min	0	Ac-ft	4,480		

SACRAMENTO RIVER BASIN

949

11-4331. LONG CANYON CREEK NEAR FRENCH MEADOWS, CALIF.

LOCATION.--Lat 39°01'16", long 120°30'53", in SE $\frac{1}{4}$ NW $\frac{1}{4}$ sec.34, T.14 N., R.13 E., on right bank 75 ft downstream from North Fork Long Canyon, 6.5 miles south of French Meadows, and 18 miles east of Foresthill.

DRAINAGE AREA.--18.0 sq mi.

RECORDS AVAILABLE.--August 1960 to September 1967.

GAGE.--Graphic water-stage recorder. Altitude of gage is 4,100 ft (from topographic map).

EXTREMES.--Maximum discharge during year, 513 cfs Jan. 29 (gage height, 6.32 ft); minimum daily, 0.60 cfs Oct. 29-31, Nov. 9-14.

1960-67: Maximum discharge, 4,690 cfs Dec. 23, 1964 (gage height, 11.20 ft), from rating curve extended above 300 cfs on basis of slope-area measurements at gage heights 6.62 and 10.27 ft; minimum, 0.2 cfs Sept. 4, 5, 7, 1961.

REMARKS.--Records good. Water is diverted above this station to Hell Hole Reservoir via South Fork and North Fork Long Canyon diversion tunnels (see sta. nos. 4330.6 and 4330.8); diversions began in February 1966. See schematic diagram for Middle Fork American and Rubicon River basins.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.1	0.70	38	6.3	126	12	36	23	46	47	3.8	1.2
2	1.1	.70	96	6.2	83	12	34	23	41	43	3.7	1.2
3	1.1	.80	52	6.2	71	12	32	34	39	39	3.6	1.3
4	1.1	.90	22	6.0	62	12	31	39	37	35	3.4	1.8
5	1.1	.90	71	6.0	62	10	31	40	69	31	3.3	2.0
6	1.2	2.0	139	5.6	57	10	31	48	59	28	3.2	1.9
7	1.1	1.5	60	5.6	60	10	32	71	49	25	3.1	1.6
8	1.0	.80	31	5.6	56	9.5	32	101	37	22	3.0	1.5
9	1.0	.60	22	5.5	52	9.3	33	114	36	20	2.8	1.6
10	1.0	.60	25	5.5	54	10	34	144	35	18	2.8	1.6
11	1.0	.60	23	5.6	53	12	32	105	34	16	2.8	1.5
12	1.0	.60	19	5.5	56	12	32	87	33	15	2.7	1.5
13	1.0	.60	16	5.6	56	12	34	77	32	13	2.6	1.4
14	.90	.60	16	11	52	10	36	79	30	12	2.4	1.4
15	.80	1.5	14	9.3	42	12	34	105	29	11	2.5	1.4
16	.80	14	14	12	32	330	32	149	26	10	2.5	1.3
17	.80	5.0	13	12	24	367	32	193	26	9.8	2.5	1.6
18	.80	3.5	12	11	22	235	31	216	25	9.5	2.4	2.5
19	.70	3.6	12	10	20	176	29	225	25	8.6	2.6	1.5
20	.80	30	11	17	19	151	23	280	24	8.1	2.6	1.4
21	.90	15	10	134	17	147	26	339	23	7.4	2.6	1.4
22	.90	10	9.5	82	16	149	25	339	57	7.0	2.5	1.5
23	.90	6.2	9.0	53	15	184	25	309	84	6.5	2.5	1.6
24	.80	5.0	8.6	45	14	160	25	289	78	6.2	2.6	1.5
25	.90	4.4	8.1	37	14	137	24	248	73	5.8	2.6	1.5
26	.90	4.2	7.8	59	13	123	24	143	69	5.2	2.4	1.4
27	.80	4.2	7.2	111	12	110	24	73	64	5.1	1.8	1.4
28	.80	44	7.0	88	12	107	23	74	59	5.0	1.7	1.4
29	.60	66	7.0	347	-----	96	22	69	56	4.6	1.5	1.4
30	.60	22	6.6	312	-----	69	21	59	52	4.5	1.3	1.4
31	.60	-----	6.5	211	-----	41	-----	55	-----	4.0	1.3	-----
Total	23.10	250.50	792.3	1636.5	1177	2746.8	885	4154	1344	482.3	81.1	45.7
Mean	0.91	8.35	25.6	52.8	42.0	88.6	29.5	134	44.8	15.6	2.62	1.52
Max	1.2	66	139	347	126	367	36	339	84	47	3.8	2.5
Min	0.60	0.60	6.5	5.5	12	9.3	21	23	23	4.0	1.3	1.2
Ac-ft	56	497	1570	3250	2330	5450	1760	8240	2670	957	161	91

Cal yr 1966: Total 5,045.80 Mean 13.8 Max 139 Min 0.40 Ac-ft 10,010
Wtr yr 1967: Total 13,623.3 Mean 37.3 Max 367 Min 0.60 Ac-ft 27,020

SACRAMENTO RIVER BASIN

11-4332. RUBICON RIVER NEAR FORESTHILL, CALIF.

LOCATION.--Lat 38°59'33", long 120°43'14", in SE¼NW¼ sec.11, T.13 N., R.11 E., on right bank 0.6 mile upstream from Ralston powerhouse, 1.2 miles upstream from confluence of Rubicon River and Middle Fork American River, and 5.6 miles southeast of Foresthill.

DRAINAGE AREA.--315 sq mi.

RECORDS AVAILABLE.--October 1958 to September 1967.

GAGE.--Digital water-stage recorder. Altitude of gage is 1,200 ft (from topographic map). October 1958 to May 17, 1963, graphic water-stage recorder at site 2.0 miles upstream, 150 ft downstream from Ralston Bridge, and May 17, 1963, to Mar. 30, 1965, graphic water-stage recorder at site 2.1 miles upstream, 100 ft upstream from Ralston Bridge at datums 1,362.20 ft above mean sea level. Mar. 31, 1965, to Sept. 29, 1967, graphic water-stage recorder at present site and datum.

EXTREMES.--Maximum discharge during year, 5,380 cfs Mar. 17 (gage height, 11.27 ft), from rating curve extended above 2,100 cfs; minimum daily, 34 cfs Nov. 5.

1958-67: Maximum discharge, unknown Dec. 23, 1964 (gage height, 55.4 ft, from floodmarks), result of overtopping of the partly constructed Hell Hole Dam; minimum daily discharge, 10 cfs Sept. 20-27, 1962.

REMARKS.--Records good. Flow regulated by Hell Hole Reservoir (see sta. no. 4287), Loon Lake (see sta. no. 4293.5), and Stumpy Meadows Reservoir (capacity, 20,000 acre-ft). Water is imported from French Meadows Reservoir on Middle Fork American River through tunnel to French Meadows powerplant on shore of Hell Hole Reservoir. Water is diverted from Hell Hole Reservoir through tunnel to Middle Fork powerplant on Middle Fork American River. Robbs Peak tunnel and powerplant (see sta. no. 4298) divert water to South Fork American River basin. See schematic diagram for Middle Fork American and Rubicon River basins.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	51	43	218	98	1,440	250	678	520	676	1,440	87	49
2	51	43	838	94	1,120	245	639	525	820	1,240	84	49
3	51	39	774	94	910	240	597	548	847	1,180	80	49
4	51	35	245	94	788	236	604	611	584	820	87	49
5	51	34	916	90	709	227	625	639	756	577	84	49
6	51	45	1,290	87	653	222	716	639	764	443	78	47
7	51	65	785	87	611	213	874	748	632	382	75	47
8	51	43	438	87	570	214	780	892	564	218	70	47
9	51	37	323	84	538	214	732	1,040	538	160	65	47
10	51	35	289	84	513	218	708	1,480	513	147	62	45
11	51	35	322	80	501	333	700	1,270	489	135	62	45
12	51	35	300	73	489	382	653	1,090	692	231	62	45
13	51	35	267	80	483	410	646	982	1,360	646	62	45
14	51	35	218	80	507	372	668	937	1,270	668	62	45
15	49	39	168	80	460	355	660	1,000	1,270	553	60	45
16	49	172	155	80	426	3,050	611	1,170	1,610	611	60	45
17	49	104	147	80	399	3,560	646	1,340	2,150	438	60	45
18	49	65	143	80	382	1,920	748	1,460	2,450	168	58	68
19	49	58	135	80	372	1,450	700	1,450	2,230	112	55	58
20	49	309	131	138	344	1,220	639	1,510	2,030	104	55	47
21	49	322	127	1,860	328	1,110	625	1,760	1,860	104	51	47
22	49	294	123	1,400	316	1,080	604	1,890	1,960	104	51	45
23	45	139	115	625	306	1,170	611	1,610	1,720	104	51	45
24	45	101	115	564	294	1,170	639	1,480	1,450	104	51	45
25	45	84	112	495	289	1,030	611	1,320	1,560	98	51	45
26	45	78	108	483	278	937	584	1,130	1,660	94	53	45
27	45	65	104	684	262	865	604	937	1,580	94	53	45
28	45	107	101	716	256	847	584	874	1,480	94	53	45
29	45	612	98	2,010	- - - -	812	551	804	1,490	90	51	45
30	45	87	98	1,900	- - - -	748	525	724	1,660	87	49	45
31	43	- - - -	98	1,860	- - - -	748	- - - -	716	- - - -	87	49	- - - -
Total	1,509	3,195	9,306	14,352	14,543	25,853	19,562	33,096	38,665	11,433	1,931	1,418
Mean	48.7	106	300	463	519	834	652	1,068	1,289	369	62.3	47.3
Max	51	612	1,290	2,010	1,440	3,560	874	1,390	2,450	1,440	87	68
Min	43	34	98	73	256	214	525	520	489	87	49	45
Ac-ft	2,990	6,340	18,460	28,470	28,850	51,280	38,800	65,640	76,690	22,680	3,330	2,910
Cal yr 1966: Total	50,846	Mean	139	Max	1,290	Min	24	Ac-ft	100,900			
Wtr yr 1967: Total	177,863	Mean	487	Max	3,560	Min	34	Ac-ft	352,300			

SACRAMENTO RIVER BASIN

951

11-4332.6. NORTH FORK OF MIDDLE FORK AMERICAN RIVER NEAR FORESTHILL, CALIF.

LOCATION.--Lat 39°01'27", long 120°43'03", in NE¼NW¼ sec.35, T.14 N., R.11 E., on right bank 1.0 mile downstream from El Dorado Canyon and 4.8 miles east of Foresthill.

DRAINAGE AREA.--88.9 sq mi.

RECORDS AVAILABLE.--July 1965 to September 1967.

GAGE.--Digital water-stage recorder. Altitude of gage is 1,300 ft (from topographic map). Prior to Sept. 13, 1967, graphic water-stage recorder at same site and datum.

EXTREMES.--Maximum discharge during year, 4,500 cfs Mar. 16 (gage height, 8.65 ft); minimum daily, 17 cfs

Oct. 23 to Nov. 5.

1965-67: Maximum discharge, 4,500 cfs Mar. 16, 1967 (gage height, 8.65 ft); minimum daily, 17 cfs Oct. 23 to Nov. 5, 1967.

REMARKS.--Records good. No storage or diversion above station. See schematic diagram for Middle Fork American and Rubicon River basins.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	20	17	352	115	1,510	293	444	293	492	144	55	33
2	20	17	1,340	110	1,170	293	410	355	395	135	54	33
3	21	17	1,080	102	853	293	395	444	360	128	52	33
4	21	17	405	100	720	284	395	589	380	120	52	33
5	21	17	1,300	100	673	275	405	631	534	115	49	35
6	21	27	1,300	92	645	267	480	666	528	110	51	35
7	21	45	1,150	83	617	263	603	1,030	456	105	49	33
8	20	28	723	85	589	263	516	1,230	439	100	49	32
9	20	24	522	85	561	267	486	1,310	426	98	49	31
10	20	22	486	85	554	280	510	1,470	400	95	46	31
11	20	21	450	81	547	330	462	1,140	370	92	46	31
12	20	21	380	83	540	355	415	1,000	385	89	46	31
13	20	21	345	83	540	360	426	948	410	85	46	31
14	19	21	330	81	547	345	486	1,000	360	81	45	31
15	19	28	302	81	450	340	450	1,220	350	79	44	30
16	19	148	275	81	405	2,840	410	1,430	335	79	42	29
17	18	73	259	81	405	2,510	410	1,440	335	77	42	28
18	13	52	243	79	405	1,440	444	1,370	330	75	42	37
19	13	39	232	77	400	1,070	420	1,290	289	73	40	36
20	13	255	221	129	380	921	395	1,330	232	69	39	32
21	18	235	210	2,060	360	858	380	1,360	193	67	40	31
22	13	193	196	1,230	350	867	370	1,290	165	67	40	30
23	17	95	182	582	335	966	385	1,230	176	65	39	30
24	17	69	163	474	330	885	395	1,150	207	65	39	31
25	17	57	162	432	330	744	375	1,070	200	62	43	30
26	17	51	153	432	311	652	355	1,000	204	60	41	30
27	17	46	141	728	302	539	370	903	182	60	40	29
28	17	129	135	1,230	293	561	335	816	172	59	39	28
29	17	624	130	2,860	---	522	316	728	159	59	36	29
30	17	255	125	2,310	---	486	283	645	156	57	34	29
31	17	---	120	2,270	---	492	---	561	---	55	33	---
Total	583	2,669	13,922	16,926	15,127	20,911	12,531	30,939	9,618	2,624	1,362	942
Mean	13.8	89.0	449	546	540	675	413	393	321	84.6	43.9	31.4
Max	21	624	1,800	2,860	1,510	2,840	603	1,470	534	144	55	35
Min	17	17	120	77	293	263	288	293	156	55	33	28
Ac-ft	1,160	5,290	27,610	33,510	30,000	41,480	24,950	61,370	19,080	5,200	2,700	1,870

Cal yr 1966: Total 56,747 Mean 155 Max 1,800 Min 17 Ac-ft 112,600

Wtr yr 1967: Total 128,154 Mean 351 Max 2,860 Min 17 Ac-ft 254,200

Peak discharge (base, 1,600 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-02	2230	7.85	3,010	3-16	1400	8.65	4,500
12-06	1400	8.00	3,250	5-10	0700	6.88	1,770
1-21	1600	8.05	3,330	5-16	2100	6.93	1,830
1-29	1900	8.50	4,200				

SACRAMENTO RIVER BASIN

11-4333. MIDDLE FORK AMERICAN RIVER NEAR FORESTHILL, CALIF.

LOCATION.--Lat 39°00'23", long 120°45'40", in NW¼NW¼ sec.4, T.13 N., R.11 E., on right bank 1.7 miles downstream from Oxbow Powerhouse and 3.2 miles east of Foresthill.

DRAINAGE AREA.--524 sq mi.

RECORDS AVAILABLE.--October 1958 to September 1967.

GAGE.--Digital water-stage recorder. Altitude of gage is 1,060 ft (from topographic map). Prior to Oct. 22, 1965, graphic water-stage recorder at site 3.2 miles downstream at different datum. Oct. 23, 1965, to Jan. 19, 1967, graphic water-stage recorder at same site and datum.

EXTREMES.--Maximum discharge during year, 17,100 cfs Mar. 16 (gage height, 12.70 ft), from rating curve extended above 5,400 cfs; minimum daily, 55 cfs Sept. 27.

1958-67: Maximum discharge, 310,000 cfs Dec. 23, 1964 (gage height, 69.0 ft, from floodmarks, site and datum then in use), caused by overtopping the partly constructed Hell Hole Dam on the Rubicon River, from rating curve extended above 28,000 cfs 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; minimum, 35 cfs Oct. 19, 20, 1961.

REMARKS.--Records fair. Flow regulated by French Meadows Reservoir (see sta. no. 4274), Hell Hole Reservoir (see sta. no. 4287), Loon Lake (see sta. no. 4293.5), Stumpy Meadows Reservoir (usable capacity, 20,000 acre-ft), and Ralston and Oxbow powerplants. Robbs Peak tunnel (see sta. no. 4298) and Georgetown Divide ditch (capacity, about 25 cfs) divert water out of basin above station. See schematic diagram for Middle Fork American and Rubicon River basins.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	78	116	963	884	3,110	1,660	2,340	2,160	2,510	2,510	1,100	1,000
2	84	70	2,680	884	2,380	1,660	2,280	2,100	2,560	2,260	1,100	605
3	96	70	2,780	884	1,900	1,700	2,220	2,250	2,440	2,440	1,100	188
4	96	214	1,180	878	1,750	1,610	2,240	2,520	2,330	2,140	1,100	51
5	100	120	2,850	884	1,670	1,650	1,670	2,340	2,630	1,920	1,100	400
6	623	122	3,800	872	1,650	1,630	2,450	2,600	2,460	1,720	1,100	1,060
7	107	82	2,180	872	2,230	1,630	2,930	3,130	2,400	1,540	1,100	1,040
8	101	92	1,300	866	2,130	1,630	2,660	3,750	2,330	1,320	1,090	1,050
9	66	78	887	872	2,080	1,650	2,580	4,200	2,240	1,280	1,090	722
10	493	70	830	872	1,770	1,680	2,630	5,080	2,260	1,260	1,100	112
11	379	136	818	872	1,640	1,900	2,690	3,990	2,160	1,270	1,090	580
12	337	80	764	872	1,630	2,030	2,550	3,550	2,380	1,260	1,080	480
13	223	80	630	872	1,840	2,040	2,490	3,350	3,050	1,720	914	605
14	299	67	535	287	1,990	1,960	2,520	3,370	2,870	1,740	1,080	605
15	352	94	540	230	1,890	1,930	2,480	3,830	2,860	1,710	1,050	770
16	67	342	644	347	1,850	9,240	2,390	4,580	3,270	1,670	1,060	98
17	67	222	848	269	1,960	9,120	2,240	5,000	3,870	1,510	1,060	722
18	516	212	536	230	1,920	5,880	2,550	3,700	4,280	1,210	1,060	758
19	514	118	854	228	1,890	4,420	2,800	4,300	3,870	1,170	1,070	620
20	642	598	1,020	290	1,780	3,850	2,460	4,500	3,550	1,170	218	620
21	699	746	908	5,010	1,780	3,490	2,650	4,600	3,390	1,160	944	610
22	232	596	896	3,150	1,760	3,470	2,980	4,750	4,500	1,160	1,050	610
23	133	161	433	2,050	1,740	3,810	2,900	4,550	3,870	1,160	1,060	340
24	226	194	290	1,800	1,660	3,650	3,050	4,250	3,250	1,150	1,060	68
25	332	251	291	1,800	1,690	3,040	3,150	4,320	3,370	1,140	1,070	248
26	525	172	290	1,550	1,690	3,000	3,020	3,900	3,510	1,150	252	65
27	266	125	333	2,200	1,670	2,800	2,940	3,450	3,650	1,100	324	55
28	414	566	896	2,650	1,650	2,720	2,910	3,250	3,410	1,140	1,050	68
29	131	1,770	896	8,060	-----	2,620	2,400	2,980	2,690	1,140	1,020	295
30	88	1,270	896	5,420	-----	2,360	1,950	2,690	2,660	1,120	1,030	356
31	118	-----	896	4,850	-----	2,280	-----	2,620	-----	1,110	1,060	-----
TOTAL	8,404	8,834	33,664	51,805	52,700	92,110	77,120	111,660	90,620	45,350	30,582	14,801
MEAN	271	294	1,086	1,671	1,882	2,971	2,571	3,602	3,021	1,463	987	493
MAX	699	1,770	3,800	8,060	3,110	9,240	3,150	5,080	4,500	2,510	1,100	1,060
MIN	66	67	290	228	1,630	1,610	1,670	2,100	2,160	1,100	218	51
AC-FT	16,670	17,520	66,770	102,800	104,500	182,700	153,000	221,500	179,700	89,950	60,660	29,360

CAL YR 1966: TOTAL 145,902 MEAN 400 MAX 3,800 MIN 38 AC-FT 289,400
 WAT YR 1967: TOTAL 617,650 MEAN 1,692 MAX 9,240 MIN 51 AC-FT 1,225,000

SACRAMENTO RIVER BASIN

953

11-4334. CANYON CREEK NEAR GEORGETOWN, CALIF.

LOCATION.--Lat 38°56'03", long 120°52'21", in SW¼NW¼ sec.33, T.13 N., R.10 E., on right bank 0.7 mile downstream from West Canyon and 2.6 miles northwest of Georgetown.

DRAINAGE AREA.--12.5 sq mi.

RECORDS AVAILABLE.--July 1966 to September 1967.

GAGE.--Digital water-stage recorder. Altitude of gage is 1,995 ft (from topographic map).

EXTREMES.--Maximum discharge during year, 970 cfs Jan. 21 (gage height, 10.40 ft); minimum daily, 1.8 cfs Oct. 1, 4-12.

REMARKS.--Records fair prior to Dec. 5, good thereafter. Small diversions above station for irrigation and domestic purposes. See schematic diagram for Middle Fork American and Rubicon River basins. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1.8	3.2	43	7.6	101	9.4	53	48	23	5.1	5.5	5.1
2	2.0	2.3	89	7.6	55	9.6	52	46	21	8.6	5.4	5.0
3	2.0	2.6	31	7.4	40	9.7	48	41	19	8.3	5.1	4.4
4	1.8	3.0	23	7.4	32	10	49	37	17	8.0	5.1	3.8
5	1.8	3.6	110	8.1	27	9.5	61	36	23	7.5	4.6	3.7
6	1.8	12	118	7.4	24	9.3	125	34	18	7.6	4.6	3.6
7	1.8	6.4	63	7.2	20	9.1	173	31	17	7.7	4.6	3.5
8	1.8	4.1	39	8.2	18	9.0	91	30	15	8.6	4.6	3.3
9	1.8	3.3	25	7.5	18	8.9	67	33	15	8.6	4.7	3.4
10	1.8	3.9	22	6.9	18	10	61	51	16	8.4	4.7	3.4
11	1.8	3.9	18	6.9	17	18	62	43	16	7.6	4.9	3.9
12	1.8	3.9	16	6.9	16	87	60	37	17	7.2	4.4	4.4
13	1.9	4.4	15	6.7	15	68	55	35	17	7.1	4.1	4.3
14	2.3	4.4	15	4.8	16	48	50	33	14	6.9	4.0	4.1
15	2.3	5.0	14	4.5	15	52	48	28	13	6.5	4.5	4.2
16	2.4	17	13	4.6	14	370	43	28	13	6.7	6.0	4.3
17	2.4	6.9	12	4.6	13	150	55	25	12	6.5	5.9	4.4
18	2.4	5.3	11	4.6	13	74	91	25	12	6.4	5.9	6.0
19	2.4	13	11	4.6	14	49	86	23	12	6.4	5.8	5.4
20	2.4	4.1	10	16	13	38	81	21	12	6.4	5.6	5.2
21	2.4	39	9.9	361	12	34	73	20	11	6.1	5.9	5.1
22	2.6	16	9.7	245	11	34	67	20	11	5.9	5.9	5.0
23	2.6	8.8	9.4	46	10	35	90	19	11	5.7	5.9	6.1
24	2.8	6.2	9.3	70	9.2	34	114	19	10	5.9	5.8	5.4
25	2.6	6.9	9.1	67	13	29	90	19	10	5.7	6.6	4.6
26	3.8	6.0	9.0	59	12	30	75	24	9.6	6.0	7.1	4.4
27	4.8	7.9	8.4	74	11	28	71	23	9.4	6.4	5.6	4.2
28	3.1	10	8.3	75	9.1	28	62	21	9.8	6.1	5.9	4.2
29	2.7	19	9.2	258	-----	27	55	21	10	6.1	5.4	4.0
30	3.1	11	8.6	141	-----	29	51	20	9.8	5.8	5.3	3.7
31	3.2	-----	7.7	194	-----	42	-----	21	-----	5.6	5.2	-----
TOTAL	74.2	243.1	796.6	1,729.5	586.3	1,398.5	2,159	912	423.6	216.2	164.6	132.1
MEAN	2.39	8.10	25.7	55.8	20.9	45.1	72.0	29.4	14.1	6.57	5.31	4.40
MAX	4.8	39	118	361	101	370	173	51	23	5.1	7.1	6.1
MIN	1.8	2.3	7.7	4.5	9.1	8.9	43	19	9.4	5.6	4.0	3.3
AC-FT	147	482	1,580	3,430	1,160	2,770	4,280	1,810	840	429	326	262

CAL YR 1966: TOTAL - MEAN - MAX - MIN - AC-FT -
 WAT YR 1967: TOTAL 8,835.7 MEAN 24.2 MAX 370 MIN 1.8 AC-FT 17,530

Peak discharge (base, 170 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-02	1600	7.15	180	1-31	1145	7.76	260
12-06	1300	7.62	241	3-12	1900	7.11	175
1-21	2315	10.40	970	3-16	1115	9.53	649
1-29	0845	9.09	517	4-06	2315	8.01	296

SACRAMENTO RIVER BASIN

11-4335. MIDDLE FORK AMERICAN RIVER NEAR AUBURN, CALIF.

LOCATION.--Lat 38°55'05", long 121°00'45", in NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.6, T.12 N., R.9 E., on right bank at Mountain Quarry Co. plant, 1.5 miles upstream from mouth, and 3.3 miles northeast of Auburn.

DRAINAGE AREA.--612 sq mi.

RECORDS AVAILABLE.--October 1911 to September 1967. Prior to October 1934, published as "near East Auburn."

GAGE.--Graphic water-stage recorder. Datum of gage is 552.35 ft above mean sea level (levels by Murray Engineers). Prior to December 1930, staff gages near present site at different datums. December 1930 to Aug. 9, 1962, graphic water-stage recorder, and Aug. 10, 1962, to Mar. 1, 1963, digital water-stage recorder at site 0.4 mile upstream at different datum.

AVERAGE DISCHARGE.--56 years, 1,343 cfs (972,300 acre-ft per year).

EXTREMES.--Maximum discharge during year, 14,500 cfs Mar. 16 (gage height, 17.6 ft); minimum daily, 60 cfs Oct. 17.

1911-67: Maximum discharge, 253,000 cfs Dec. 23, 1964 (gage height, 60.4 ft, from floodmarks), from rating curve extended above 69,000 cfs on basis of slope-area measurement of maximum flow (caused by over-topping of the partly constructed Hell Hole Dam); minimum, 20 cfs Sept. 6, 1931, Sept. 19, 1934.

REMARKS.--Records good. Natural flow of stream affected by French Meadows Reservoir (see sta. no. 4274), Loon Lake (see sta. no. 4293.5), Stumpy Meadows Reservoir (usable capacity, 20,000 acre-ft), and diversion dams on Rubicon and Little Rubicon River. Robbs Peak tunnel (see sta. no. 4298) diverts water out of basin. See schematic diagram for Middle Fork American and Rubicon River basins. Records of suspended-sediment loads for the water year 1967 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	91	134	1,120	1,000	4,640	1,670	2,790	2,430	2,670	2,710	1,150	1,080
2	85	94	2,600	1,000	3,390	1,650	2,830	2,450	2,640	2,380	1,130	962
3	94	76	3,220	997	2,660	1,670	2,710	2,440	2,540	2,610	1,130	242
4	82	85	1,430	997	2,240	1,660	2,670	2,720	2,460	2,310	1,130	89
5	76	150	3,140	997	1,980	1,620	2,300	2,610	2,600	2,080	1,120	83
6	276	142	4,500	997	1,780	1,620	2,940	3,020	2,610	1,870	1,120	1,030
7	386	170	3,080	983	2,400	1,580	4,050	3,210	2,530	1,610	1,110	1,100
8	124	76	1,780	983	2,310	1,590	3,400	3,800	2,420	1,410	1,120	1,100
9	68	109	1,170	969	2,230	1,580	3,100	4,380	2,310	1,390	1,110	1,070
10	179	88	1,070	955	2,010	1,610	3,050	4,950	2,310	1,330	1,110	180
11	408	103	990	955	1,780	1,960	3,050	4,260	2,230	1,330	1,100	291
12	407	91	920	948	1,760	2,390	2,880	3,820	2,340	1,320	1,110	583
13	320	79	836	948	1,890	2,600	2,830	3,560	3,060	1,720	920	632
14	127	91	717	569	2,140	2,380	2,870	3,560	2,990	1,810	1,100	644
15	450	103	638	248	2,020	2,230	2,840	3,760	2,950	1,790	1,080	656
16	88	300	572	308	1,950	9,220	2,700	4,330	3,210	1,760	1,090	494
17	60	402	969	386	2,040	10,000	2,710	4,720	3,820	1,690	1,100	353
18	230	260	780	230	2,010	6,260	3,140	4,590	4,110	1,310	1,100	948
19	558	245	759	220	1,970	4,890	2,850	4,640	3,970	1,220	1,100	650
20	558	534	1,190	260	1,850	4,260	2,770	4,780	3,670	1,210	634	650
21	672	983	1,050	5,280	1,850	3,900	2,890	5,000	3,420	1,210	599	632
22	444	850	1,020	5,880	1,820	3,790	2,800	5,190	4,340	1,210	1,080	632
23	134	486	759	2,280	1,770	3,740	2,940	4,780	4,100	1,210	1,100	479
24	134	270	344	1,960	1,760	3,740	3,150	4,520	3,420	1,210	1,100	206
25	420	182	356	2,000	1,680	3,390	2,970	4,640	3,480	1,210	1,100	104
26	572	280	356	1,630	1,730	3,120	2,830	3,920	3,620	1,200	686	248
27	636	182	332	2,330	1,710	3,100	2,830	3,620	3,740	1,140	95	92
28	355	306	857	2,920	1,640	2,960	2,710	3,320	3,640	1,200	932	80
29	225	1,780	1,030	8,330	- - - -	2,930	2,150	3,200	3,050	1,180	1,090	95
30	100	1,400	1,020	6,750	- - - -	2,660	2,450	2,830	2,510	1,180	1,070	620
31	88	- - - -	1,010	6,600	- - - -	2,950	- - - -	2,750	- - - -	1,150	1,100	- - - -
Total	8,447	10,051	39,615	60,910	59,010	98,720	86,200	117,300	92,760	47,960	31,516	16,025
Mean	272	335	1,273	1,965	2,108	3,185	2,873	3,800	3,092	1,547	1,017	534
Max	672	1,780	4,500	8,330	4,640	10,000	4,050	5,190	4,340	2,710	1,150	1,100
Min	60	76	332	220	1,640	1,580	2,150	2,430	2,230	1,150	95	80
Ac-ft	16,750	19,940	78,580	120,800	117,000	195,800	171,000	233,700	184,000	95,130	62,510	31,790
Cal yr 1966: Total	169,912			466	Max 4,500	Min 35	Ac-ft 337,000					
Wtr yr 1967: Total	669,014			Mean 1,833	Max 10,000	Min 60	Ac-ft 1,327,000					

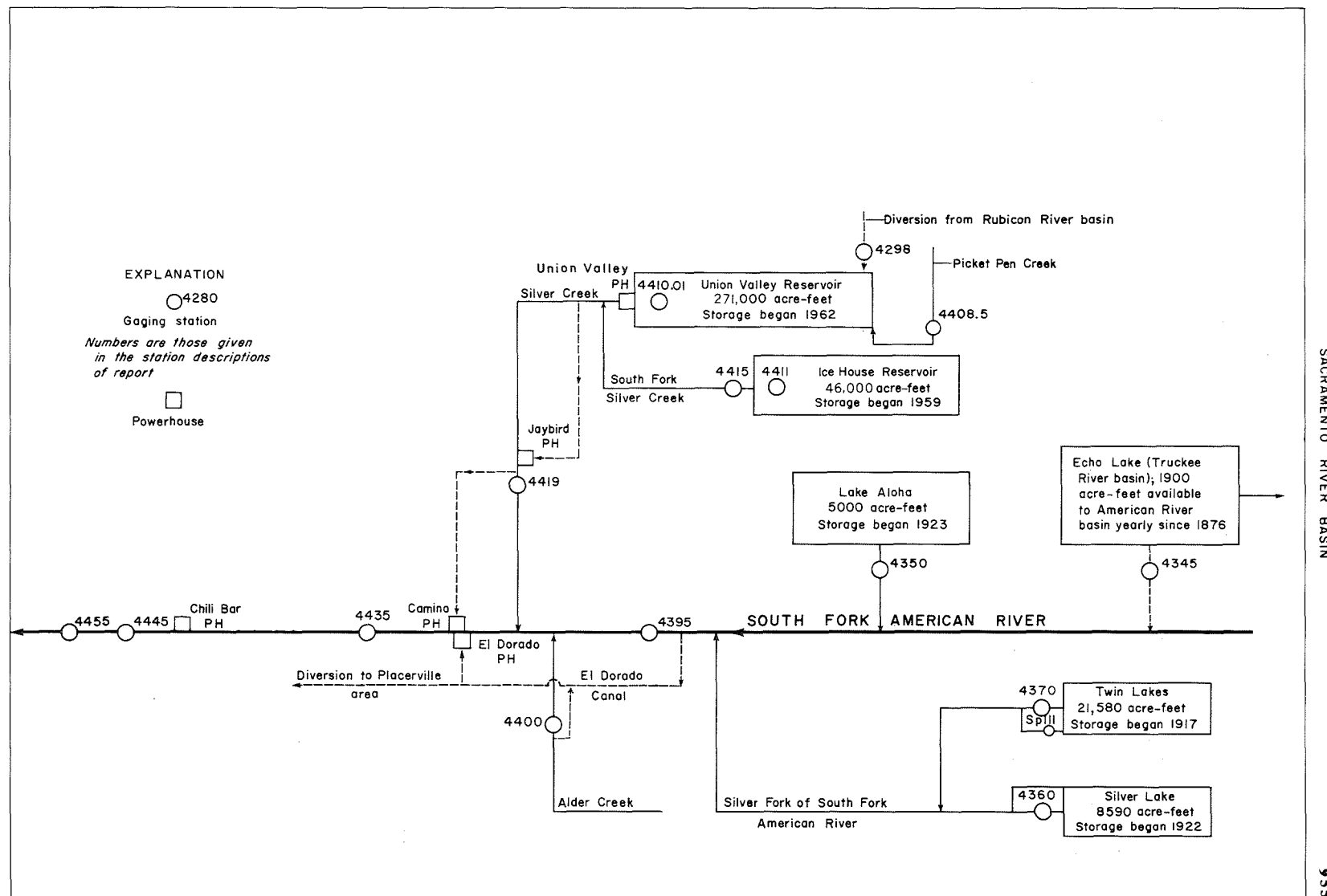


Figure 12--Schematic diagram showing diversions and storage in South Fork American River basin.

SACRAMENTO RIVER BASIN

11-4345. ECHO LAKE CONDUIT NEAR PHILLIPS, CALIF.

LOCATION.--Lat 38°49'52", long 120°02'12", in NW¼ sec.6, T.11 N., R.18 E., on right bank in Berkeley Municipal Camp, 0.5 mile downstream from intake and 2.4 miles northeast of Phillips.

RECORDS AVAILABLE.--August 1923 to December 1967 (diversion seasons only). Monthly discharge only for July 1933, published in WSP 1315-A. Published as Echo Lake flume near Vade prior to 1943 and as Echo Lake conduit near Vade for seasons 1944-53.

GAGE.--Graphic water-stage recorder. Altitude of gage is 7,420 ft (from topographic map). Prior to July 16, 1929, staff gage at site 0.4 mile upstream at different datum.

EXTREMES.--1923-67: Maximum daily discharge, 31 cfs Sept. 10, 1963; no flow for most of each year.

REMARKS.--Records good. No flow except during diversion season for which discharge is published. Conduit diverts from Echo Lake (capacity, 1,900 acre-ft) in Truckee River basin into basin of South Fork American River for power and irrigation. See schematic diagram of South Fork American River basin.

COOPERATION.--Gage-height record and four discharge measurements furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project.

DISCHARGE, IN CUBIC FEET PER SECOND, SEPTEMBER TO DECEMBER 1967

Day						Sept.	Oct.	Nov.	Dec.		
1						0	17	0	1.9		
2						0	26	7.5	0		
3						0	24	19	0		
4						0	22	18	0		
5						0	24	16	0		
6						0	24	13	0		
7						0	24	12	0		
8						0	23	8.3	0		
9						0	23	6.6	0		
10						0	23	6.2	0		
11						0	23	5.7	0		
12						0	22	5.2	0		
13						0	22	6.7	0		
14						0	21	6.2	0		
15						0	21	5.2	0		
16						0	20	6.4	0		
17						0	20	7.4	0		
18						0	19	6.8	0		
19						0	18	6.7	0		
20						0	18	6.4	0		
21						0	17	6.2	0		
22						0	17	5.7	0		
23						0	16	5.4	0		
24						0	15	4.9	0		
25						0	15	4.8	0		
26						12	15	4.5	0		
27						25	14	4.2	0		
28						25	13	4.1	0		
29						25	7.5	4.2	0		
30						17	0	4.8	0		
31						0	0	0	0		
Total						104	563.5	218.1	1.9		
Mean						3.47	18.2	7.27	.06		
Max						25	26	19	1.9		
Min						0	0	0	0		
Ac-ft						206	1,120	433	3.8		

Cal yr 1966: Total
Wtr yr 1967: Total

Mean
Mean
Max
Max
Min
Min
Ac-ft
Ac-ft

SACRAMENTO RIVER BASIN

957

11-4350. PYRAMID CREEK NEAR PHILLIPS, CALIF.

LOCATION.--Lat 38°50'55", long 120°07'40", in N½ sec.32, T.12 N., R.17 E., on left bank 0.9 mile southeast of Lake Aloha dam, 1.6 miles east of Pyramid Peak, 3.4 miles northwest of Phillips, and 4.6 miles west of Echo Lake Resort.

DRAINAGE AREA.--3.73 sq mi.

RECORDS AVAILABLE.--September 1922 to September 1967. Monthly discharge only for some periods, published in WSP 1315-A. Prior to October 1952, published as Medley Lakes Outlet near Vade and October 1952 to September 1955 as Medley Lakes Outlet near Phillips.

GAGE --Graphic water-stage recorder. Altitude of gage is 8,050 ft (from topographic map).

AVERAGE DISCHARGE.--45 years, 17.5 cfs (12,670 acre-ft per year).

EXTREMES.--Maximum discharge, 204 cfs June 20 (gage height, 3.44 ft); maximum gage height, 3.70 ft June 24 (backwater from ice); no flow Oct. 12 to Nov. 15.
1922-67: Maximum discharge, 401 cfs Dec. 23, 1964 (gage height, 4.88 ft, from recorded range in stage), from rating curve extended above 130 cfs; maximum gage height, 5.4 ft Jan. 31, 1963 (backwater from ice); no flow at times in some years.

REMARKS.--Records good except those for period of no gage-height record, which are poor. Flow regulated by Lake Aloha (capacity, 5,000 acre-ft); no contents Sept. 30, 1966, and 3,200 acre-ft Sept. 30, 1967. See schematic diagram of South Fork American River basin.

COOPERATION.--Gage-height record and two discharge measurements furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.20	0	7.6						40	136	46	69
2	.20	0	9.1						32	142	44	69
3	.20	0	7.9						33	148	41	69
4	.20	0	6.5						34	146	36	69
5	.20	0	22						34	141	36	68
6	.20	0	15						35	131	35	67
7	.20	0	11						45	116	34	48
8	.20	0	8.2						68	112	23	7.6
9	.20	0	6.5						77	108	8.5	5.5
10	.20	0	6.0						73	97	8.2	5.5
11	.10	0	5.7						73	93	7.6	5.3
12	0	0	5.4						69	91	7.3	5.3
13	0	0	5.2						65	91	9.7	5.3
14	0	0	5.0						69	96	7.6	5.3
15	0	0	5.0						79	91	10	5.3
16	0	.80	5.0						98	96	9.7	5.3
17	0	.70	5.0						118	85	14	5.3
18	0	.70	5.0						121	83	12	6.8
19	0	1.0	5.0						106	79	11	5.5
20	0	2.2	5.0						158	75	12	4.5
21	0	3.2	5.0						166	61	13	2.6
22	0	3.7	4.9						147	39	18	1.8
23	0	3.3	4.8						126	39	39	1.7
24	0	3.3	4.7						114	40	39	1.6
25	0	3.5	4.6						116	40	38	1.6
26	0	3.5	4.6						131	40	38	1.3
27	0	3.5	4.5						141	40	37	64
28	0	14	4.5						136	35	38	65
29	0	20	4.4						128	45	44	65
30	0	8.5	4.4						133	48	57	65
31	0		4.3							48	63	
Total	210	71.90	201.8	117.8	156.8	217.0	204.0	620	2,765	2,632	836.6	812.8
Mean	.07	2.40	6.51	3.80	5.60	7.00	6.80	20.0	92.2	84.9	27.0	27.1
Max	.20	20	22	-	-	-	-	-	166	148	63	69
Min	0	0	4.3	-	-	-	-	-	32	35	7.3	1.6
Ac-ft	4.2	143	400	234	311	430	405	1,230	5,480	5,220	1,660	1,610

Cal yr 1966 : Total 4,049.3 Mean 11.1 Max - Min - Ac-ft 8,030
Wtr yr 1967 : Total 7,837.8 Mean 21.5 Max 166 Min 0 Ac-ft 15,550

Note.--No gage-height record Dec. 9 to June 4.

SACRAMENTO RIVER BASIN

11-4360. SILVER LAKE OUTLET NEAR KIRKWOOD, CALIF.

LOCATION.--Lat 38°40'17", long 120°07'18", in SW $\frac{1}{4}$ sec.32, T.10 N., R.17 E., on right bank 1,000 ft downstream from Silver Lake Dam and 3.5 miles southwest of Kirkwood.

DRAINAGE AREA.--15.2 sq mi.

RECORDS AVAILABLE.--September 1922 to September 1967. Records for water year 1923 incomplete, yearly estimate published in WSP 1315-A.

GAGE.--Graphic water-stage recorder. Datum of gage is 7,199.5 ft above mean sea level, unadjusted.

AVERAGE DISCHARGE.--45 years, 33.8 cfs (24,470 acre-ft per year).

EXTREMES.--Maximum discharge during year, 349 cfs June 27 (gage height, 4.12 ft); minimum daily, 0.30 cfs Oct. 2.

1922-67: Maximum discharge, 676 cfs Nov. 21, 1950 (gage height, 6.03 ft), from rating curve extended above 290 cfs; no flow for many days in February, March 1948, Jan. 13, 14, 1954, Nov. 3, 1959 to Feb. 5, 1960.

REMARKS.--Records good. Flow regulated by Silver Lake (capacity, 3,840 acre-ft at spillway level and 8,590 acre-ft with 11 ft of flashboards); contents in Silver Lake, 3,800 acre-ft Sept. 30, 1966, and 2,600 acre-ft Sept. 30, 1967. Some water, in addition to that released through dam and over spillway, escapes from Silver Lake through porous rock formation. See schematic diagram of South Fork American River basin.

COOPERATION.--Gage-height record and seven discharge measurements furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.40	47	31	26	23	13	39	29	156	269	3.4	2.8
2	3.0	39	31	25	22	13	38	28	116	273	3.4	2.7
3	1.4	32	31	25	22	14	38	28	100	275	2.8	2.5
4	4.0	17	31	25	21	15	38	28	132	269	3.2	1.9
5	1.6	23	32	23	19	14	38	29	165	255	3.0	2.3
6	3.2	23	33	20	17	14	38	29	158	231	2.8	4.2
7	3.6	3.9	33	17	15	14	38	29	178	191	3.4	5.8
8	3.8	24	33	15	15	14	38	31	213	167	3.2	8.7
9	3.8	17	33	13	14	16	38	34	245	164	2.8	9.2
10	4.1	13	33	12	14	17	37	36	265	120	2.7	9.1
11	4.8	9.7	33	12	15	21	37	36	262	48	2.7	10.9
12	4.8	7.4	33	11	15	23	37	37	262	16	2.3	12.2
13	3.6	6.7	33	10	15	24	36	37	261	18	2.7	12.3
14	3.2	2.9	32	10	16	23	36	37	263	20	2.8	12.7
15	3.2	11	32	10	17	23	36	38	280	23	2.8	12.3
16	3.2	25	32	10	16	26	35	40	303	64	2.7	11.5
17	3.0	24	31	10	15	30	34	44	326	82	2.8	12.6
18	3.0	18	31	10	15	34	34	63	332	72	2.8	12.3
19	3.0	14	31	10	15	35	34	170	277	63	2.7	9.8
20	3.0	22	31	11	14	36	34	240	149	50	2.5	7.0
21	47	24	30	19	13	36	32	277	78	30	2.7	6.4
22	65	22	30	23	13	38	32	314	144	12	3.6	6.1
23	63	17	30	22	13	38	32	314	203	3.0	3.6	5.8
24	62	13	29	22	13	38	32	311	226	3.4	3.8	5.7
25	60	10	29	22	13	38	31	305	238	3.6	3.8	5.6
26	59	8.8	28	21	13	38	31	297	311	3.8	3.6	5.5
27	57	7.9	28	20	12	38	31	291	335	3.8	3.4	5.5
28	56	18	28	20	12	39	30	277	286	3.8	3.4	5.4
29	55	30	27	22	- - - -	39	30	259	247	3.8	3.4	5.3
30	52	31	27	23	- - - -	39	29	245	251	3.8	3.2	5.3
31	51	- - - -	27	23	- - - -	39	- - - -	201	- - - -	3.6	3.2	- - - -
Total	6844.0	519.9	953	542	437	839	1043	4134	6762	2744.6	952	2104.9
Mean	224	17.3	30.7	17.5	15.6	27.1	34.8	133	225	88.5	30.7	70.2
Max	65	47	33	26	23	39	39	314	335	275	3.8	12.7
Min	3.0	2.3	2.7	1.0	1.2	1.3	2.9	2.8	7.8	3.0	2.3	1.9
Ac-ft	1360	1030	1890	1080	867	1660	2070	8200	13410	5440	189	4180

Cal yr 1966: Total 8189.3 Mean 224 Max 215 Min 30 Ac-ft 16240
 Wtr yr 1967: Total 20859.0 Mean 57.1 Max 335 Min 30 Ac-ft 41370

SACRAMENTO RIVER BASIN

959

11-4370. TWIN LAKES OUTLET NEAR KIRKWOOD, CALIF.

LOCATION.--Lat 38°42'29", long 120°03'00", in SW $\frac{1}{4}$ sec.18, T.10 N., R.18 E., on right bank 500 ft downstream from main dam and outlet gate of Twin Lakes and 1.3 miles east of Kirkwood.

DRAINAGE AREA.--13.5 sq mi.

RECORDS AVAILABLE.--September 1922 to September 1967. Records for water year 1945 incomplete, yearly estimate published in WSP 1315-A.

GAGE.--Graphic water-stage recorder and concrete control for outlet, and graphic water-stage recorder for spillway. Altitude of gage is 7,700 ft (from topographic map).

AVERAGE DISCHARGE.--45 years, 36.1 cfs (26,140 acre-ft per year), including flow over Twin Lakes spillway.

EXTREMES.--Maximum combined daily discharge during year for outlet and spillway, 419 cfs July 2, 3; minimum daily, 2.0 cfs Oct. 13-18.

1922-67: Maximum combined daily discharge for outlet and spillway, 419 cfs July 2, 3, 1967; minimum daily, 0.1 cfs Mar. 25-31, 1944, Nov. 27, 28, 1956.

REMARKS.--Records good. Flow regulated by Twin Lakes (capacity, 19,750 acre-ft spillway level, 21,580 acre-ft with 3 ft of flashboards), contents of which were 10,400 acre-ft on Sept. 30, 1966, and 18,600 acre-ft on Sept. 30, 1967. Flow over Twin Lakes spillway occurred June 30 to Aug. 14 and is included in table below. No diversion above station. See schematic diagram of South Fork American River basin.

COOPERATION.--Gage-height record and six discharge measurements for outlet and gage-height record and three discharge measurements for spillway furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	92	91	30	3.4	3.4	5.1	7.9	5.5	179	409	79	41
2	56	97	30	3.4	3.4	5.1	5.1	5.8	179	419	76	50
3	3.1	103	30	3.4	3.8	5.1	5.1	5.8	179	419	56	48
4	2.4	60	30	3.4	3.8	5.1	4.8	5.5	179	399	32	48
5	2.4	4.1	30	3.4	3.8	4.8	4.8	5.8	179	388	27	22
6	2.2	4.1	29	3.4	3.8	4.4	4.8	5.5	179	378	27	4.4
7	2.2	8.5	29	3.4	3.8	4.4	5.1	5.8	179	337	17	4.4
8	2.2	54	29	3.4	3.8	4.1	5.1	5.8	179	315	14	4.4
9	2.2	56	29	3.4	4.1	4.1	5.1	5.8	179	308	33	4.4
10	2.2	48	29	3.1	4.1	4.1	5.1	5.8	179	209	44	4.4
11	2.2	54	29	3.1	4.4	4.1	5.5	5.5	179	62	28	4.4
12	2.2	54	28	3.1	4.4	4.1	5.5	5.5	179	23	42	4.4
13	2.0	54	28	3.1	4.8	4.1	5.5	5.8	181	26	61	4.1
14	2.0	58	28	3.1	4.8	4.1	5.5	5.8	181	30	70	4.1
15	2.0	44	17	3.1	4.8	4.8	5.5	6.2	181	40	66	3.8
16	2.0	31	3.8	3.1	5.1	6.2	5.5	6.6	183	119	58	3.4
17	2.0	31	3.8	3.1	5.1	5.5	5.8	6.6	185	192	65	3.4
18	2.0	31	3.8	3.1	5.1	5.5	5.8	6.6	187	138	74	5.1
19	2.4	31	3.8	3.1	4.8	5.5	6.2	7.1	129	97	79	11
20	2.7	31	3.8	3.1	4.8	5.5	6.6	7.1	154	99	85	50
21	7.1	30	3.4	3.1	4.8	5.5	6.2	7.5	249	99	76	75
22	41	30	3.4	3.4	4.8	5.5	5.1	7.5	251	99	57	80
23	59	30	3.4	3.4	4.8	5.5	5.1	7.9	251	99	53	79
24	65	30	3.4	3.8	5.1	5.5	5.5	8.3	253	107	56	79
25	70	30	3.4	3.8	5.1	5.5	5.5	8.7	255	108	45	79
26	73	30	3.4	3.8	5.1	5.5	5.5	109	278	84	44	79
27	77	30	3.4	3.8	5.1	5.1	5.5	177	285	70	44	42
28	84	30	3.4	3.8	5.1	5.5	5.5	177	305	64	56	15
29	90	30	3.4	3.8	-----	5.5	5.5	177	320	56	48	8.8
30	88	30	3.4	3.4	-----	6.2	5.5	177	347	56	44	4.4
31	88	-----	3.4	3.4	-----	7.5	-----	179	-----	67	48	-----
Total	930.5	1,244.7	481.4	104.2	125.8	158.5	165.2	1,155.8	6,323	5,316	1,604	865.9
Mean	30.0	41.5	15.5	3.36	4.49	5.11	5.51	37.3	211	171	51.7	28.9
Max	92	103	30	3.8	5.1	7.5	7.9	179	347	419	85	80
Min	2.0	4.1	3.4	3.1	3.4	4.1	4.8	5.5	129	23	14	3.4
Ac-ft	1,850	2,470	955	207	250	314	328	2,290	12,540	10,540	3,180	1,720

Cal yr 1966: Total **11,901.3** Mean **32.6** Max **124** Min **1.8** Ac-ft **23,610**
 Wtr yr 1967: Total **18,475.0** Mean **50.6** Max **419** Min **2.0** Ac-ft **36,640**

SACRAMENTO RIVER BASIN

11-4395. SOUTH FORK AMERICAN RIVER NEAR KYBURZ, CALIF.

LOCATION.--Lat 38°45'49", long 120°19'39", in SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.29, T.11 N., R.15 E., on right bank beside U.S. Highway 50, 0.8 mile downstream from Silver Fork of South Fork and 1.9 miles southwest of Kyburz.

DRAINAGE AREA.--193 sq mi.

RECORDS AVAILABLE.--August to December 1907, October 1922 to September 1967. Prior to October 1956, records for river and El Dorado Canal published separately; combined only, October 1956 to September 1962.

GAGE.--Digital water-stage recorder on river; digital water-stage recorder for canal diversion. Altitude of gage is 3,840 ft (from topographic map). Prior to Oct. 1, 1962, graphic water-stage recorder at datum 1.00 ft higher. Oct. 1, 1962, to May 19, 1964, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE (river only).--45 years (1922-67), 287 cfs (207,800 acre-ft per year).
(total flow).--45 years (1922-67), 399 cfs (288,900 acre-ft per year).

EXTREMES (river only).--Maximum discharge during year, 4,940 cfs May 22 (gage height, 7.59 ft); minimum daily, 3.4 cfs Nov. 5.

1907, 1923-67: Maximum discharge, 17,400 cfs Dec. 23, 1964 (gage height, 10.92 ft), from rating curve extended above 6,300 cfs on basis of contracted-opening measurement at gage height 10.40 ft; minimum daily, 0.30 cfs Nov. 9-11, 1928.

(combined).--Maximum discharge during year, 5,080 cfs May 22; minimum daily, 16 cfs Oct. 6.

1907, 1923-67: Maximum discharge, 17,500 cfs Dec. 23, 1964; minimum daily, 10 cfs Oct. 17, 19, 1929.

REMARKS.--Records good. Flow at low and medium stages greatly regulated by four reservoirs since beginning of record (total usable capacity, 37,100 acre-ft). See schematic diagram of South Fork American River basin. For records of combined discharge of river and canal, see following page. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

COOPERATION.--Gage-height record and 13 discharge measurements for river and gage-height record and eight discharge measurements for canal furnished by the Pacific Gas and Electric Co. in connection with a Federal Power Commission project.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	5.2	4.4	94	4.6	280	81	372	125	1,580	2,560	148	8.8
2	5.2	4.1	287	5.3	208	83	337	162	1,370	2,530	131	9.1
3	28	4.2	331	4.6	170	97	304	209	1,390	2,410	114	9.9
4	22	4.1	104	4.6	152	80	292	280	1,840	2,220	75	9.1
5	17	3.4	265	4.6	152	63	268	272	2,020	2,060	46	13
6	16	4.4	850	5.5	136	58	242	326	1,850	1,860	34	15
7	19	4.1	391	9.8	138	65	239	630	2,000	1,660	25	8.9
8	19	3.9	185	4.6	140	75	234	998	2,170	1,490	8.5	13
9	19	3.9	118	4.6	140	97	247	1,200	2,330	1,370	5.6	8.7
10	18	3.9	110	4.6	154	104	251	961	2,340	1,200	15	8.7
11	18	3.9	99	4.6	158	86	223	703	2,300	896	12	11
12	18	3.9	76	4.6	178	212	208	596	2,270	699	8.6	15
13	18	3.9	132	4.6	190	268	226	616	2,220	689	8.6	11
14	18	3.9	61	4.6	198	286	253	780	2,290	656	8.8	13
15	17	4.1	51	4.6	148	220	235	1,220	2,470	619	12	15
16	17	69	26	4.6	130	1,820	209	1,710	2,840	653	15	9.1
17	17	6.5	20	5.4	112	1,930	285	2,080	3,270	758	8.6	12
18	17	3.7	17	5.6	114	1,090	272	2,150	3,200	659	11	43
19	17	4.4	15	4.7	116	781	239	2,270	2,980	529	8.4	14
20	17	179	17	5.6	122	665	199	2,790	2,730	465	10	7.1
21	13	12	9.5	93	162	625	174	3,400	2,820	409	8.6	9.6
22	4.4	4.2	5.2	39	94	660	160	3,690	2,730	330	8.6	15
23	3.7	3.9	5.4	44	86	706	154	3,660	2,610	296	15	12
24	3.6	3.7	5.5	22	83	610	151	3,580	2,650	282	67	9.7
25	3.9	3.6	6.3	16	80	545	142	3,320	2,820	266	30	8.8
26	3.6	3.6	4.4	38	68	491	136	3,210	2,890	231	22	6.7
27	3.9	3.6	4.7	162	65	451	152	3,040	2,900	184	8.5	35
28	4.4	449	33	215	67	605	133	2,790	2,790	174	8.5	29
29	4.1	596	56	640	-----	532	123	2,520	2,660	150	8.6	30
30	4.1	150	20	554	-----	455	121	2,260	2,640	152	8.6	22
31	4.1	-----	5.3	443	-----	411	-----	1,940	-----	141	11	-----
TOTAL	395.2	1,552.3	3,404.3	2,367.7	3,841	14,252	6,581	53,488	72,970	28,598	901.5	432.2
MEAN	12.7	51.7	110	76.4	137	460	219	1,725	2,432	923	29.1	14.4
MAX	28	596	850	640	280	1,930	372	3,690	3,270	2,560	148	43
MIN	3.6	3.4	4.4	4.6	65	58	121	125	1,370	141	5.6	6.7
AC-FT	784	3,080	6,750	4,700	7,620	28,270	13,050	106,100	144,700	56,720	1,790	857

CAL YR 1966: TOTAL 59,862.8 MEAN 164 MAX 1,320 MIN 3.4 AC-FT 118,700
WAT YR 1967: TOTAL 188,783.2 MEAN 517 MAX 3,690 MIN 3.4 AC-FT 374,400

Peak discharge (base, 2,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-16	1615	6.62	3,070	6-17	1845	7.23	4,240
5-22	2045	7.59	4,940				

SACRAMENTO RIVER BASIN

961

11-4395. SOUTH FORK AMERICAN RIVER NEAR KYBURZ, CALIF.--Continued

Combined discharge, in cubic feet per second, of South Fork American River and
El Dorado Canal near Kyburz, Calif., water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	124	157	255	125	420	240	453	273	1,720	2,720	314	166
2	123	154	442	124	348	242	418	312	1,510	2,690	297	175
3	56	151	480	121	310	255	403	360	1,530	2,570	280	178
4	22	150	265	121	292	238	402	426	1,980	2,380	238	177
5	17	45	415	121	292	221	390	413	2,150	2,220	212	182
6	16	26	993	106	283	216	372	466	1,980	2,020	199	183
7	19	30	531	131	288	223	371	770	2,130	1,820	191	174
8	19	56	333	106	290	234	364	1,140	2,300	1,650	172	177
9	19	100	273	105	290	256	377	1,330	2,460	1,530	147	165
10	18	86	265	101	304	263	388	1,080	2,480	1,360	176	158
11	18	90	254	101	308	244	363	827	2,450	1,060	167	163
12	18	88	231	104	328	314	348	720	2,320	864	152	184
13	18	85	232	104	340	333	366	741	2,370	854	166	179
14	18	84	216	109	348	353	394	912	2,440	821	172	181
15	17	92	208	111	298	284	375	1,360	2,520	784	179	183
16	17	216	187	115	279	1,880	349	1,840	2,990	819	177	173
17	17	150	181	108	262	1,990	352	2,220	3,420	924	161	171
18	17	106	178	107	264	1,160	363	2,280	3,350	824	178	211
19	17	90	176	106	266	845	340	2,400	3,130	694	169	179
20	17	330	178	114	248	729	316	2,920	2,890	630	178	149
21	25	170	170	219	245	689	307	3,540	2,980	574	173	179
22	96	138	159	164	237	723	297	3,820	2,880	496	163	184
23	149	115	157	170	216	769	291	3,800	2,770	461	162	181
24	148	97	146	158	213	672	288	3,720	2,810	448	235	179
25	156	92	145	152	210	610	279	3,460	2,980	432	198	177
26	154	96	144	178	218	555	278	3,340	3,050	397	190	174
27	158	90	141	302	219	515	297	3,180	3,060	349	166	202
28	158	559	150	355	226	609	278	2,920	2,950	339	158	197
29	165	758	142	780	---	596	268	2,660	2,820	316	173	199
30	162	312	133	694	---	518	266	2,400	2,800	317	156	190
31	158	---	128	583	---	483	---	2,080	---	306	177	---
Total	2,136	4,713	7,908	5,995	7,842	17,259	10,353	57,710	77,220	33,669	5,876	5,370
Mean	68.9	157	255	193	280	557	345	1,862	2,574	1,086	190	179
Max	165	758	993	780	420	1,990	453	3,820	3,420	2,720	314	211
Min	16	26	128	101	210	216	266	273	1,510	306	147	158
Ac-ft	4,240	9,350	15,690	11,890	15,550	34,230	20,530	114,500	153,200	66,780	11,650	10,650

Cal yr 1966: Total 109,087 Mean 296 Max 1,480 Min 16 Ac-ft 214,400
Wtr yr 1967: Total 236,051 Mean 647 Max 3,820 Min 16 Ac-ft 469,200

SACRAMENTO RIVER BASIN

11-4400. ALDER CREEK NEAR WHITE HALL, CALIF.

LOCATION.--Lat 38°45'19", long 120°22'17", in NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.35, T.11 N., R.14 E., on right bank 0.9 mile upstream from mouth and 2.2 miles southeast of White Hall.

DRAINAGE AREA.--22.1 sq mi.

RECORDS AVAILABLE.--October 1922 to September 1967 (includes diversions by pipeline). Published as "near Whitehall" prior to October 1953.

GAGE.--Digital water-stage recorder and, since Aug. 28, 1964, broad-crested weir with V-notch. Altitude of gage is 3,840 ft (from topographic map). Prior to July 23, 1924, staff gage at same site and datum. July 23, 1924 to May 5, 1966, graphic water-stage recorder, at same site and datum.

AVERAGE DISCHARGE.--45 years, 37.2 cfs (26,930 acre-ft per year), including diversions by pipeline.

EXTREMES (creek only).--Maximum discharge during year, 565 cfs Mar. 16 (gage height, 4.27 ft); minimum daily, 0.30 cfs Oct. 1-25, Nov. 1-5, 7-9.
1922-67: Maximum discharge, 5,500 cfs Dec. 23, 1955 (gage height, 8.40 ft, from floodmarks), from rating curve extended above 500 cfs; no flow at times in several years.

REMARKS.--Records good. Records include computed flow in feeder pipeline that was diverted 1,300 ft above station into El Dorado Canal; no flow during year.

COOPERATION.--Gage-height record, 12 discharge measurements on Alder Creek, and readings of head on Parshall flume at pipeline outlet furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	.30	.30	26	14	179	50	106	46	173	48	4.3	2.5
2	.30	.30	117	14	141	51	96	53	153	43	4.2	2.5
3	.30	.30	107	14	119	52	90	63	144	38	4.0	2.6
4	.30	.30	52	13	105	49	86	76	157	33	3.9	2.7
5	.30	.30	143	13	98	47	80	81	179	29	3.7	2.8
6	.30	.40	328	11	93	46	78	93	170	25	3.6	2.6
7	.30	.30	165	15	91	45	76	129	168	22	3.5	2.5
8	.30	.30	99	12	89	46	71	179	169	20	3.5	2.5
9	.30	.30	75	11	88	47	72	222	170	18	3.4	2.5
10	.30	.40	69	11	87	49	74	227	164	16	3.3	2.4
11	.30	.70	60	11	87	44	70	191	158	15	3.2	2.5
12	.30	.60	53	11	91	46	68	168	155	13	3.1	2.3
13	.30	.60	48	11	93	45	72	164	147	12	3.0	2.3
14	.30	.60	42	11	94	49	75	183	142	11	2.9	2.3
15	.30	.90	38	11	86	50	72	231	140	10	2.7	2.3
16	.30	9.8	36	11	79	378	67	294	141	10	2.7	2.2
17	.30	4.4	33	11	74	456	67	358	148	9.2	2.7	2.3
18	.30	2.8	31	11	72	305	66	382	151	8.5	2.6	3.1
19	.30	2.9	30	11	69	236	64	383	138	8.0	2.4	2.6
20	.30	22	29	13	64	203	58	420	126	7.4	2.4	2.3
21	.30	12	27	72	61	187	56	464	119	7.0	2.4	2.2
22	.30	7.9	25	59	58	180	54	484	109	6.6	2.3	2.3
23	.30	5.5	24	49	56	192	52	463	99	6.3	2.5	2.3
24	.30	4.1	22	42	54	177	51	432	91	6.0	2.6	2.4
25	.30	3.4	21	39	53	157	49	386	86	5.7	4.2	2.3
26	.40	3.3	18	41	50	141	49	345	80	5.4	5.0	2.2
27	.40	3.2	18	73	49	127	52	306	72	5.2	3.1	2.2
28	.40	29	18	90	49	154	49	277	65	5.0	2.8	2.2
29	.40	43	18	265	-----	143	45	244	59	4.9	2.6	2.5
30	.40	21	16	271	-----	126	45	217	54	4.7	2.6	2.5
31	.40	-----	15	245	-----	118	-----	197	-----	4.5	2.5	-----
TOTAL	9.90	180.90	1,803	1,486	2,329	3,996	2,010	7,758	3,927	457.4	97.7	72.9
MEAN	.32	6.03	58.2	47.9	83.2	129	67.0	250	131	14.8	3.15	2.43
MAX	.40	43	328	271	179	456	106	484	179	48	5.0	3.1
MIN	.30	.30	15	11	49	44	45	46	54	4.5	2.3	2.2
AC-FT	20	359	3,580	2,950	4,620	7,930	3,990	15,390	7,790	907	194	145

CAL YR 1966: TOTAL 7,696.50 MEAN 21.1 MAX 328 MIN .20 AC-FT 15,270
WAT YR 1967: TOTAL 24,127.80 MEAN 66.1 MAX 484 MIN .30 AC-FT 47,860

Peak discharge (base, 170 cfs, creek only)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 2	2215	3.57	287	3-16	1245	4.27	565
12- 6	1215	4.20	560	5-21	1830	4.25	555
1-29	1200	3.78	370				

SACRAMENTO RIVER BASIN

963

11-4408.5. PICKET PEN CREEK NEAR KYBURZ, CALIF.

LOCATION.--Lat 38°52'03", long 120°22'22", in SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.23, T.12 N., R.14 E., on left bank 1 mile upstream from mouth and 7.7 miles northwest of Kyburz.

DRAINAGE AREA.--0.49 sq mi.

RECORDS AVAILABLE.--January 1964 to September 1967.

GAGE.--Graphic water-stage recorder, crest-stage gage, and float-operated recording rain gage. Altitude of gage is 5,060 ft (from topographic map).

EXTREMES.--Maximum discharge during year, 15 cfs May 21 (gage height, 8.77 ft); minimum daily, 0.01 cfs Oct. 1 to Nov. 14.

1964-67: Maximum discharge, 111 cfs Dec. 23, 1964 (gage height, 13.47 ft), from rating curve extended above 37 cfs on basis of computations of flow through culvert at gage heights 10.52, 11.89, 13.09, and 13.47 ft; no flow Sept. 17, 1966.

Flood of Jan. 31, 1963, reached a stage of 10.52 ft (from floodmarks); discharge, 53 cfs, from computation of flow through culvert.

REMARKS.--Records good except those less than 0.10 cfs, which are fair. No storage or diversion above station. See schematic diagram for South Fork American River basin.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.01	0.01	0.10	0.14	3.0	1.1	3.0	1.3	5.0	0.44	0.08	0.06
2	.01	.01	.23	.14	2.4	1.1	2.6	1.4	4.6	.38	.08	.06
3	.01	.01	.18	.14	2.0	1.1	2.6	1.9	4.2	.38	.08	.04
4	.01	.01	.10	.14	1.8	1.1	2.4	2.1	4.1	.33	.08	.04
5	.01	.01	.47	.14	1.6	.98	2.2	2.2	5.4	.33	.08	.04
6	.01	.01	1.8	.11	1.5	.98	1.8	2.6	4.8	.29	.08	.04
7	.01	.01	.98	.11	1.4	.98	2.2	3.3	4.2	.29	.06	.04
8	.01	.01	.38	.11	1.4	1.1	2.2	4.2	3.8	.25	.06	.04
9	.01	.01	.29	.11	1.3	1.1	2.2	5.2	3.6	.25	.06	.04
10	.01	.01	.25	.11	1.3	1.1	2.1	5.5	3.3	.25	.08	.04
11	.01	.01	.25	.11	1.3	.82	2.0	4.7	2.8	.21	.08	.04
12	.01	.01	.25	.11	1.4	.90	2.0	4.3	2.7	.17	.06	.04
13	.01	.01	.21	.11	1.6	1.1	2.0	4.4	2.6	.14	.06	.04
14	.01	.01	.21	.11	1.5	1.2	2.1	5.2	2.2	.17	.06	.04
15	.01	.03	.21	.11	1.3	1.1	2.0	6.5	1.9	.17	.06	.04
16	.01	.14	.21	.11	1.2	7.9	1.8	7.5	1.6	.17	.06	.03
17	.01	.04	.21	.11	1.2	9.5	1.6	8.2	1.4	.14	.06	.04
18	.01	.03	.21	.11	1.2	6.3	1.8	9.0	1.4	.11	.06	.06
19	.01	.03	.17	.11	1.2	5.4	1.6	9.8	1.3	.11	.06	.04
20	.01	.03	.17	.21	1.1	4.8	1.8	11	1.1	.11	.06	.04
21	.01	.03	.17	2.4	1.1	4.7	1.5	12	.98	.11	.06	.04
22	.01	.03	.17	1.3	1.1	4.6	1.5	12	.90	.11	.06	.03
23	.01	.03	.17	.98	1.1	5.4	1.4	12	.82	.11	.06	.03
24	.01	.03	.17	.75	1.1	4.8	1.4	10	.75	.08	.06	.03
25	.01	.03	.14	.68	1.1	4.3	1.3	9.4	.68	.08	.11	.03
26	.01	.03	.14	.75	.98	4.1	1.3	8.2	.62	.08	.11	.03
27	.01	.03	.14	1.6	.98	3.7	1.2	7.5	.56	.08	.08	.03
28	.01	.10	.14	1.6	1.1	4.3	1.2	6.8	.50	.08	.08	.04
29	.01	.06	.14	4.2	- - - - -	4.1	1.1	6.1	.50	.08	.08	.04
30	.01	.04	.14	5.0	- - - - -	3.4	1.3	5.5	.44	.08	.08	.04
31	.01	- - - - -	.14	4.1	- - - - -	3.1	- - - - -	5.5	- - - - -	.08	.06	- - - - -
Total	0.31	0.85	8.54	25.81	39.26	96.16	55.2	195.3	68.75	5.66	2.20	1.19
Mean	.01	.03	0.28	.83	1.40	3.10	1.84	6.30	2.29	.18	.07	.04
Max	.01	.14	1.8	5.0	3.0	9.5	3.0	12	5.4	.44	.11	.06
Min	.01	.01	.10	.11	.98	.82	1.1	1.3	.44	.08	.06	.03
Ac-ft	0.6	1.7	17	51	78	191	109	387	136	11	4.4	2.4
(+)	0	2.50	7.53	9.50	.64	5.90	6.60	2.17	1.21	0	.52	.75

Cal yr 1966: Total 10296 Mean 0.28 Max 4.0 Min 0 Ac-ft 204
Wtr yr 1967: Total 499.23 Mean 1.37 Max 12 Min .01 Ac-ft 990

† Precipitation, in inches. Some precipitation falling as snow may not be included.

SACRAMENTO RIVER BASIN

11-4410.01. UNION VALLEY RESERVOIR NEAR RIVERTON, CALIF.

LOCATION.--Lat 38°52'00", long 120°26'25", in SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.20, T.12 N., R.14 E., in valve control house near left bank at Union Valley Dam on Silver Creek, 0.6 mile upstream from Little Silver Creek, and 6.6 miles north of Riverton.

DRAINAGE AREA.--83.6 sq mi.

RECORDS AVAILABLE.--October 1962 to September 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is at mean sea level (levels by Sacramento Municipal Utility District).

EXTREMES.--Maximum contents during year, 268,600 acre-ft July 11 (elevation, 4,869.1 ft); minimum, 90,900 acre-ft Jan. 27 (elevation, 4,782.1 ft).

1962-67: Maximum contents, 270,400 acre-ft June 10, 1963 (elevation, 4,869.8 ft); minimum since reservoir first filled, 90,900 acre-ft Jan. 27, 1967 (elevation, 4,782.1 ft).

REMARKS.--Reservoir is formed by earthfill dam completed in December 1962. Storage began in May 1962. Usable capacity, 264,000 acre-ft between elevations 4,645.0 (minimum operating level) and 4,870.0 ft (top of radial spillway gates) above mean sea level. Dead storage, 7,000 acre-ft. Records, including extremes, represent total contents at 2400 hours. Reservoir receives water from the South Fork Rubicon River via Robbs Peak powerplant (see sta. no. 4298). Water is used for power development in the South Fork American River basin. See schematic diagram for Middle Fork American and Rubicon River basins, and South Fork American River basin.

COOPERATION.--One hundred and eight staff gage readings furnished by Sacramento Municipal Utility District.

Contents, in thousands of acre-feet, at 2400 hours, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	95.6	105.8	111.0	103.4	100.0	105.0	140.6	142.6	183.3	263.2	261.3	231.3
2	95.6	105.8	111.6	107.6	99.9	106.0	140.9	141.8	183.5	264.0	260.2	231.5
3	95.8	105.8	112.2	106.8	99.9	107.1	141.3	141.1	189.4	264.8	259.6	230.7
4	96.0	105.8	113.2	106.2	100.6	109.2	141.5	140.4	190.5	265.3	257.0	230.0
5	96.0	105.8	115.0	106.6	101.2	109.2	142.0	139.7	192.7	266.1	255.6	228.9
6	96.0	105.8	117.7	107.6	101.6	110.2	142.7	138.8	194.5	267.0	254.0	228.1
7	96.0	105.8	118.6	108.2	101.9	111.2	143.3	137.9	196.7	267.2	252.6	227.4
8	96.5	105.8	118.8	107.7	102.2	112.0	144.0	138.1	198.6	267.5	251.6	226.3
9	97.4	105.8	118.8	106.8	102.3	113.0	144.7	138.8	201.1	267.8	250.8	225.5
10	97.9	105.8	118.8	105.2	102.4	113.8	145.4	139.3	204.1	268.0	249.9	224.5
11	98.6	105.8	118.8	103.6	102.3	114.8	146.0	138.6	207.2	268.6	249.1	223.7
12	99.3	105.8	118.8	102.2	103.0	115.6	146.2	137.9	210.1	269.0	248.3	222.7
13	100.0	105.8	118.4	100.7	103.4	116.4	146.3	137.5	212.9	267.2	247.5	221.9
14	100.7	105.8	118.3	99.5	103.6	117.0	146.5	137.2	216.0	266.4	246.7	220.9
15	101.4	106.0	117.5	98.2	103.6	116.7	147.1	137.7	219.6	265.6	245.9	220.1
16	102.2	106.4	116.7	96.8	103.6	120.6	147.6	139.9	223.7	264.8	245.1	219.3
17	103.0	106.5	116.2	95.3	103.0	127.3	148.0	142.7	228.4	264.0	244.3	218.5
18	103.8	106.5	116.4	94.3	102.9	130.3	148.1	145.4	232.8	263.7	243.5	217.8
19	105.2	106.8	116.0	93.2	103.5	131.8	148.0	148.9	236.7	263.4	242.7	216.9
20	105.8	107.2	115.6	92.5	103.6	132.5	147.6	152.5	240.1	263.2	241.7	216.2
21	105.8	107.6	115.2	93.2	103.5	133.2	147.4	156.6	243.0	263.4	240.9	215.6
22	105.8	107.7	114.8	93.5	103.6	133.7	147.2	160.8	245.9	263.7	240.1	215.4
23	105.8	107.7	114.3	92.2	104.1	134.5	146.9	165.2	248.6	264.2	239.8	215.4
24	105.8	107.7	113.8	92.2	103.6	135.5	146.5	170.2	251.0	264.2	238.8	215.1
25	105.8	107.7	113.2	92.1	103.6	136.8	146.2	175.5	253.4	263.7	238.0	215.4
26	105.8	107.8	112.8	91.4	104.1	137.7	145.4	178.0	255.1	263.4	237.2	216.0
27	105.8	107.8	112.0	90.9	104.1	138.4	145.1	180.6	256.7	263.2	236.5	216.5
28	105.8	108.8	111.3	91.6	104.1	139.1	144.4	183.5	258.3	262.9	235.7	216.9
29	105.8	108.9	110.6	94.7	-----	139.7	143.8	185.9	260.7	262.4	234.6	217.1
30	105.8	109.2	109.8	97.5	-----	140.0	143.3	187.4	262.4	262.1	233.9	217.3
31	105.8	-----	109.2	99.2	-----	140.4	-----	188.5	-----	261.8	233.1	-----
(†)	4,792.5	4,795.8	4,794.8	4,788.0	4,791.4	4,813.0	4,814.6	4,836.6	4,866.8	4,866.6	4,855.8	4,849.7
(*)	+10.2	+3.4	0	-10.0	+4.9	+36.3	+2.9	+45.2	+73.9	+0.6	-28.7	-15.8
Max	105.8	109.2	118.8	108.4	104.1	140.4	149.1	183.5	262.4	268.6	261.3	231.5
Min	95.6	105.8	109.2	90.9	99.9	105.0	140.6	137.2	188.3	261.8	233.1	215.1

Calendar year 1966:..... † -26.9 Max 187.6 Min 95.6
 Water year 1966-67:..... † +121.7 Max 268.6 Min 90.9

† Elevation, in feet, at end of month.

* Change in contents, in thousands of acre-feet.

Note.-- Contents for March 16 to September 30 based on SMUD staff gage readings.

11-4411. ICE HOUSE RESERVOIR NEAR KYBURZ, CALIF.

LOCATION.--Lat 38°49'26", long 120°21'34", in SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.1, T.11 N., R.14 E., on left bank at Ice House Dam on South Fork Silver Creek, 0.5 mile upstream from Peavine Creek, and 4.75 miles northwest of Kyburz.

DRAINAGE AREA.--27.2 sq mi.

RECORDS AVAILABLE.--October 1959 to September 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is at mean sea level (levels by Sacramento Municipal Utility District).

EXTREMES.--1959-60: Maximum contents during year, 32,100 acre-ft for many days in June and July (elevation, 5,428.74 ft).
1966-67: Maximum contents during year, 46,000 acre-ft June 29, 30 (elevation, 5,450.1 ft); minimum, 7,660 acre-ft Mar. 16 (elevation, 5,374.2 ft).
1959-67: Maximum contents, 46,200 acre-ft Aug. 15, 1965 (elevation, 5,450.3 ft); minimum since reservoir first filled, 1,740 acre-ft Oct. 5-9, 1962 (elevation, 5,349.85 ft).

REMARKS.--Reservoir is formed by earthfill dam. Storage began Dec. 15, 1959. Usable capacity, 45,800 acre-ft between elevations 5,327.5 (centerline of fishwater outlet) and 5,450.0 ft (top of spillway gates). Dead storage, 160 acre-ft. Records, including extremes, represent total contents at 2400 hours. See schematic diagram for South Fork American River basin.

REVISIONS.--Revised figures of contents in acre-feet for the water year 1960, superseding those published in WSP 1715, are given herewith:

CAPACITY TABLE (ELEVATION, IN FEET, AND CONTENTS, IN ACRE-FT)

5,349	1,600	5,400	17,600
5,350	1,760	5,420	27,400
5,380	3,840	5,450	46,000
5,380	9,600		

CONTENTS, IN ACRE-FEET, AT 2400 HOURS, WATER YEAR OCTOBER 1959 TO SEPTEMBER 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1					323	2,170	8,320	18,600	28,400	32,100	31,900	31,100
2					327	2,200	8,560	18,800	28,900	32,100	31,900	31,000
3					333	2,230	8,810	19,000	29,200	32,100	31,800	31,000
4					339	2,240	9,110	19,200	29,600	32,100	31,800	30,900
5					351	2,300	9,560	19,400	29,800	32,100	31,800	30,900
6					360	2,390	10,000	19,600	30,100	32,100	31,800	30,900
7					432	2,720	10,600	20,000	30,300	32,100	31,700	30,800
8					743	3,240	11,100	20,500	30,500	32,100	31,700	30,800
9					976	3,550	11,600	21,100	30,600	32,100	31,700	30,800
10					1,170	3,720	12,100	21,600	30,700	32,100	31,600	30,800
11					1,310	3,860	12,600	22,300	30,900	32,100	31,600	30,800
12					1,430	4,050	13,000	22,700	31,000	32,100	31,600	30,800
13					1,530	4,200	13,300	23,200	31,100	32,100	31,600	30,800
14					1,600	4,330	13,700	23,600	31,200	32,100	31,500	30,800
15					1,660	4,400	14,100	24,000	31,400	32,100	31,500	30,700
16					1,680	4,520	14,400	24,400	31,500	32,100	31,500	30,600
17					1,740	4,610	14,900	24,700	31,600	32,100	31,500	30,600
18					1,760	4,750	15,200	25,000	31,700	32,100	31,500	30,600
19					1,790	4,910	15,600	25,300	31,700	32,000	31,400	30,600
20					1,820	5,100	16,000	25,600	31,800	32,000	31,400	30,500
21					1,840	5,330	16,500	25,800	31,900	32,000	31,300	30,500
22					1,840	5,570	16,800	26,000	31,900	32,100	31,200	30,500
23					1,880	5,830	17,100	26,100	32,000	32,100	31,200	30,400
24					1,900	6,150	17,300	26,300	32,000	32,000	31,200	30,400
25					1,960	6,540	17,500	26,500	32,000	32,000	31,200	30,400
26					2,010	6,880	17,700	26,700	32,000	32,000	31,100	30,400
27					2,060	7,270	17,900	26,900	32,000	32,000	31,100	30,300
28					2,110	7,520	18,100	27,200	32,000	32,000	31,100	30,300
29					2,150	7,730	18,200	27,400	32,100	31,900	31,100	30,300
30					3,07	7,930	18,400	27,700	32,100	31,900	31,000	30,200
31					3,09	8,100	18,400	28,000	32,100	31,900	31,100	30,200
(†)	-	-	-	5,334.22	5,352.26	5,375.65	5,401.77	5,421.22	-	5,428.29	5,426.82	5,425.35
(‡)	0	0	+65	+84	+1,841	+5,950	+10,300	+9,600	+4,100	=200	=800	=900
Max	-	-	-	309	2,150	8,100	18,400	28,000	32,100	32,100	31,900	31,100
Min	-	-	-	-	323	2,170	8,320	18,600	28,400	31,900	31,000	30,200

Calendar year 1966..... - Max - Min -
Water year 1966-67..... +30,040 Max 32,100 Min -

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-feet.

SACRAMENTO RIVER BASIN

11-4411. ICE HOUSE RESERVOIR NEAR KYBURZ, CALIF.--Continued

Contents, in thousands of acre-feet, at 2400 hours, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	32.9	27.8	19.3	16.2	18.3	13.1	11.7	14.8	33.6	45.9	43.7	39.4
2	32.8	27.8	19.3	16.2	18.5	12.7	11.7	14.9	33.7	45.4	43.6	39.2
3	32.8	27.6	19.4	16.2	18.5	12.3	11.9	14.9	33.6	45.2	43.5	39.1
4	32.7	27.1	19.4	16.2	18.6	11.9	12.0	15.0	33.6	45.3	43.4	38.9
5	32.7	26.6	19.6	16.2	18.7	11.5	12.1	15.1	33.7	45.4	43.3	38.7
6	32.7	26.1	20.0	16.2	18.5	11.1	12.3	15.3	33.9	45.7	43.2	38.6
7	32.4	25.6	20.2	16.2	18.2	10.6	12.4	15.5	34.0	45.7	43.0	37.4
8	31.9	25.2	20.0	16.3	17.9	10.2	12.5	15.7	34.2	45.4	42.9	37.2
9	31.5	24.7	20.0	16.3	17.8	9.78	12.7	16.0	34.5	45.1	42.8	37.0
10	31.0	24.4	20.0	16.3	17.9	9.39	12.8	16.3	34.8	45.2	42.7	37.9
11	30.6	24.4	20.0	16.3	18.0	9.04	12.9	16.6	35.2	45.4	42.5	37.7
12	30.2	24.4	19.8	16.4	18.0	8.69	13.0	16.8	35.4	45.4	42.4	37.6
13	29.8	24.3	19.4	16.4	18.0	8.34	13.1	17.0	35.7	45.6	42.3	37.4
14	29.5	24.0	19.0	16.4	17.6	7.99	13.2	17.3	36.2	45.6	42.2	37.2
15	29.2	23.6	18.6	16.5	17.3	7.66	13.3	17.7	36.7	45.5	42.0	37.0
16	28.9	23.1	18.2	16.5	17.0	7.75	13.4	18.2	37.5	45.4	41.8	36.8
17	28.6	22.4	17.8	16.5	16.7	8.41	13.5	19.0	38.5	45.4	41.7	36.6
18	28.3	22.2	17.3	16.5	16.5	8.94	13.7	19.9	39.2	45.2	41.6	36.5
19	28.0	22.0	16.9	16.5	16.2	9.28	13.8	20.8	39.9	45.1	41.5	36.3
20	28.0	21.7	16.5	16.6	15.9	9.53	13.9	21.8	40.6	44.9	41.3	36.3
21	28.0	21.4	16.1	16.8	15.6	9.78	13.9	23.2	41.2	44.8	41.1	36.1
22	28.0	21.0	15.9	16.9	15.3	9.95	14.1	24.6	41.8	44.6	40.9	35.9
23	28.0	20.7	15.9	16.9	15.1	10.2	14.1	25.8	42.3	44.4	40.7	35.9
24	28.0	20.4	16.0	17.1	14.6	10.3	14.2	27.0	42.9	44.3	40.7	35.9
25	27.9	20.2	16.0	17.1	14.5	10.5	14.3	28.2	43.5	44.1	40.5	35.9
26	27.8	20.0	16.0	17.2	14.2	10.7	14.4	29.2	43.9	43.9	40.4	35.9
27	27.8	19.8	16.0	17.3	13.9	10.9	14.5	30.2	44.6	43.6	40.2	35.9
28	27.8	19.7	16.0	17.5	13.6	11.0	14.5	31.0	45.4	43.6	40.0	35.9
29	27.8	19.8	16.1	17.8	-----	11.2	14.6	31.8	46.0	43.7	39.9	35.8
30	27.8	19.5	16.1	18.0	-----	11.3	14.7	32.5	46.0	43.8	39.7	35.8
31	27.8	-----	16.1	18.2	-----	11.5	-----	33.1	-----	43.8	39.6	-----
(†)	5,420.8	5,404.2	5,396.6	5,401.3	5,390.2	5,385.0	5,393.0	5,430.4	5,450.1	5,447.0	5,440.5	5,434.7
(‡)	-5.1	-8.3	-3.4	+2.1	-4.6	-2.1	+3.2	+18.4	+12.9	-2.2	+4.2	-3.8
Max	32.9	27.8	20.2	18.2	18.7	13.1	14.7	33.1	46.0	45.9	43.7	39.4
Min	27.8	19.5	15.9	16.2	13.6	7.66	11.7	14.8	33.6	43.6	39.6	35.8

Calendar year 1966..... + 10.44

Max 35.0

Min 5.72

Water year 1966-67..... + 2.9

Max 46.0

Min 7.66

† Elevation, in feet, at end of month.

‡ Change in contents, in thousands of acre-feet.

11-4415. SOUTH FORK SILVER CREEK NEAR ICE HOUSE, CALIF.

LOCATION.--Lat 38°49'08", long 120°21'51", in NW¼NW¼ sec.12, T.11 N., R.14 E., on right bank 300 ft upstream from Peavine Creek, 0.4 mile downstream from Ice House Dam, and 4.8 miles northwest of Kyburz.

DRAINAGE AREA.--27.5 sq mi.

RECORDS AVAILABLE.--October 1924 to September 1967.

GAGE.--Graphic water-stage recorder and concrete control. Altitude of gage is 5,290 ft (from topographic map). Prior to Oct. 1, 1959, at site 0.3 mile downstream at different datum.

AVERAGE DISCHARGE.--43 years, 74.1 cfs (53,650 acre-ft per year), adjusted for storage.

EXTREMES.--Maximum discharge during year, 672 cfs June 30 (gage height, 4.68 ft); minimum daily, 3.8 cfs Dec. 31 to Jan. 2.

1924-67: Maximum discharge, 3,940 cfs Dec. 23, 1955 (gage height, 6.71 ft, site and datum then in use), from rating curve extended above 540 cfs on basis of slope-area measurement at gage height 6.69 ft; no flow Oct. 31 to Nov. 9, 1958.

REMARKS.--Records excellent. Flow regulated by Ice House Reservoir beginning in December 1959 (see sta. no. 4411). See schematic diagram for South Fork American River basin.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9.5	11	203	3.8	4.2	236	4.9	7.1	12	654	84	89
2	9.5	8.1	121	3.8	4.2	236	4.9	9.5	153	645	89	89
3	9.5	100	13	4.2	4.2	236	4.9	9.5	305	520	89	89
4	9.5	262	13	4.7	4.2	236	4.9	10	305	335	89	89
5	9.5	270	13	4.7	4.5	236	5.2	10	305	258	89	89
6	9.5	270	14	4.7	117	236	5.2	11	305	172	89	89
7	140	270	12	4.7	194	236	5.2	11	305	209	89	89
8	250	266	32	4.7	191	236	5.7	12	305	325	89	89
9	250	266	118	4.7	122	236	5.4	12	305	325	89	89
10	250	171	12	4.7	5.2	240	5.4	11	305	204	89	89
11	213	12	12	4.7	4.5	236	5.2	11	305	124	89	89
12	197	12	133	4.5	4.5	236	5.4	11	305	124	89	89
13	194	12	229	4.5	91	232	5.7	11	305	124	89	89
14	185	163	229	4.5	194	232	5.4	11	305	146	90	89
15	174	266	229	4.5	191	229	5.2	12	310	172	90	89
16	174	266	232	4.5	191	125	5.2	12	310	172	90	89
17	174	274	232	4.5	191	7.1	4.9	12	310	172	90	89
18	177	215	232	4.5	191	6.0	4.9	12	310	172	90	90
19	139	163	232	4.5	188	5.7	4.9	12	315	172	90	92
20	49	163	232	4.5	183	5.7	4.9	12	315	172	90	92
21	11	209	232	5.4	183	5.7	4.9	12	320	172	90	92
22	11	206	132	4.7	183	5.7	4.9	12	320	172	90	59
23	11	188	7.8	4.5	185	6.0	4.9	12	320	172	89	9.1
24	11	188	7.8	4.5	185	5.4	4.9	12	320	172	89	9.1
25	11	134	7.4	4.7	185	5.2	4.7	11	320	172	89	9.1
26	11	99	7.1	5.2	185	5.2	5.4	11	320	172	89	9.1
27	11	99	6.2	5.4	185	5.2	6.0	11	257	172	89	9.1
28	11	158	5.7	4.9	203	6.0	6.0	11	215	85	89	9.1
29	11	206	5.4	7.4	-----	5.4	5.7	11	215	11	89	9.1
30	11	203	4.2	6.2	-----	4.9	6.0	11	500	11	89	9.1
31	11	-----	3.8	4.7	-----	4.9	-----	12	-----	50	89	-----
Total	2,749.0	5,135.1	3,017.4	147.5	3,588.5	3,733.1	156.8	345.1	8,802	6,559	2,763	2,010.8
Mean	83.7	171	97.3	4.76	128	121	5.23	11.1	293	212	89.1	67.0
Max	250	274	232	7.4	203	240	6.0	12	500	654	90	92
Min	9.5	8.1	3.8	3.8	4.2	4.9	4.7	7.1	12	11	84	9.1
Ac-ft	5,450	10,190	5,980	293	7,120	7,410	311	684	17,460	13,010	5,480	3,990
Mean †	5.69	31.8	42.0	38.9	45.4	86.4	59.0	31.0	510	176	20.8	3.19
Ac-ft†	350	1,890	2,580	2,390	2,520	5,310	3,510	19,080	30,360	10,810	1,280	190
Calendar year 1966: Total	13,128.7			Mean 360	Max 274	Min 3.8	Ac-ft 26,040	Mean † 50.3		Ac-ft † 36,480		
Water year 1966-67: Total	39,011.3			Mean 107	Max 654	Min 3.8	Ac-ft 77,380	Mean † 111		Ac-ft † 80,270		

† Adjusted for change in contents in Ice House Reservoir.

Note.--When inflow to reservoir is small and other quantities are large, discordant figures of net runoff may occur. Data for evaporation from Ice House Reservoir are not available.

SACRAMENTO RIVER BASIN

11-4419. SILVER CREEK BELOW CAMINO DIVERSION DAM, CALIF.

LOCATION.--Lat 38°49'26", long 120°32'18", on line between secs.4 and 5, T.11 N., R.13 E., on right bank 300 ft downstream from Round Tent Canyon, 0.4 mile downstream from diversion dam, and 5 miles northeast of Pollock Pines.

DRAINAGE AREA.--171 sq mi.

RECORDS AVAILABLE.--October 1960 to September 1967.

GAGE.--Digital water-stage recorder. Datum of gage is 2,754.06 ft above mean sea level (Sacramento Municipal Utility District benchmark). Prior to Oct. 1, 1962, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--7 years, 160 cfs (115,800 acre-ft per year), unadjusted.

EXTREMES.--Maximum discharge during year, 2,800 cfs May 11 (gage height, 7.09 ft); minimum daily, 8.1 cfs Nov. 5. 1960-67: Maximum discharge, 19,300 cfs Jan. 31, 1963 (gage heights, 11.28 ft, in gage well, 11.9 ft, from floodmarks), from rating curve extended above 1,400 cfs on basis of slope-area measurement of maximum flow; minimum daily, 4.6 cfs July 1, 1964.

REMARKS.--Records good. Flow regulated by storage, diversions, and powerplants. See schematic diagram for South Fork American River basin. Records not adjusted for diversions or changes in storage.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	21	20	13	11	72	18	27	26	34	901	27	28
2	21	15	30	11	58	18	26	30	35	1,030	27	29
3	20	12	23	11	46	18	25	128	36	872	27	28
4	16	11	17	11	39	18	26	331	37	648	27	29
5	17	8.1	37	9.6	34	18	26	363	37	610	27	29
6	17	8.7	67	9.5	33	18	28	691	233	533	27	29
7	18	8.6	36	12	31	18	29	729	395	545	27	28
8	21	10	26	11	31	18	28	788	389	541	27	29
9	21	11	20	11	30	17	29	842	218	539	29	28
10	20	11	20	12	30	18	29	991	20	260	29	29
11	19	11	19	13	30	19	28	869	18	25	29	29
12	19	11	18	13	29	20	28	797	19	24	29	29
13	18	11	17	13	29	20	29	798	21	24	29	28
14	18	13	16	13	28	19	30	779	21	24	30	28
15	17	14	16	13	28	19	35	793	22	24	29	28
16	18	16	14	13	27	89	29	949	24	24	29	28
17	18	14	13	13	26	84	30	917	23	24	29	28
18	17	13	12	14	25	66	33	810	23	24	29	29
19	16	13	12	13	24	54	32	796	23	24	29	28
20	15	15	12	14	24	48	37	791	220	24	29	28
21	15	15	12	50	23	45	25	784	337	24	29	28
22	17	16	12	37	22	43	32	768	340	24	29	32
23	18	13	11	29	22	52	27	733	334	25	30	29
24	18	13	11	26	21	50	32	505	331	24	30	25
25	19	12	11	24	20	44	26	501	331	23	30	26
26	19	11	11	33	19	39	26	471	142	24	30	27
27	19	12	10	48	18	35	30	456	423	24	30	25
28	19	12	11	53	18	34	26	115	438	25	30	24
29	19	9.7	11	103	-----	33	25	33	22	25	29	25
30	19	12	11	96	-----	31	25	34	470	23	28	25
31	20	-----	12	86	-----	29	-----	34	-----	26	28	-----
TOTAL	569	372.1	561	826.1	837	1,052	858	17,652	5,016	6,987	888	835
MEAN	18.4	12.4	18.1	26.6	29.9	33.9	28.6	569	167	225	28.6	27.8
MAX	21	20	67	103	72	89	37	991	470	1,030	30	32
MIN	15	8.1	10	9.5	18	17	25	26	18	23	27	24
AC-FT	1,130	738	1,110	1,640	1,660	2,090	1,700	35,010	9,950	13,860	1,760	1,660

CAL YR 1966: TOTAL 6,851.1 MEAN 18.8 MAX 67 MIN 8.1 AC-FT 13,590
WAT YR 1967: TOTAL 36,453.2 MEAN 99.9 MAX 1,030 MIN 8.1 AC-FT 72,300

11-4435. SOUTH FORK AMERICAN RIVER NEAR CAMINO, CALIF.

LOCATION.--Lat 38°46'20", long 120°42'05", in SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.25, T.11 N., R.11 E., on right bank 500 ft upstream from Iowa Canyon Creek, and 2.8 miles northwest of Camino. Prior to Oct. 11, 1966, at site 1,000 ft downstream.

DRAINAGE AREA.--493 sq mi.

RECORDS AVAILABLE.--October 1922 to September 1967. Monthly discharge only for October 1922, published in WSP 1315-A. Records for the river and the American River flume published separately October 1922 to September 1956, October 1962 to December 1964 when flume was destroyed. Records of river and flume combined October 1956 to September 1962.

GAGE.--Digital water-stage recorder. Altitude of gage is 1,620 ft (from topographic map). Nov. 1, 1950, to Dec. 5, 1951, staff gage, Dec. 6, 1951, to May 16, 1963, graphic water-stage recorder, and May 17, 1963, to May 27, 1964, digital water-stage recorder at site 100 ft downstream at different datum. May 28, 1964, to Oct. 11, 1966, digital water-stage recorder at site 1,000 ft downstream at datum 11.37 ft lower.

AVERAGE DISCHARGE.--37 years (1922-59, prior to extensive regulation and transbasin diversion in South Fork American River basin), 961 cfs (695,700 acre-ft per year), combined flow of South Fork American River and American River flume.

EXTREMES.--Maximum discharge during year, 8,260 cfs Mar. 16 (gage height, 14.04 ft); minimum daily, 45 cfs Oct. 5.

1922-67: Maximum discharge, 49,800 cfs Dec. 23, 1955 (gage height, 32.6 ft, from floodmarks, site and datum then in use), from rating curve extended above 24,000 cfs on basis of computation of maximum flow over dam; minimum daily, 1.3 cfs Aug. 24, 1931.

REMARKS.--Records fair. Flow regulated principally by six reservoirs (total usable capacity, 347,000 acre-ft). Echo Lake conduit (see sta. no. 4345) imports up to 1,900 acre-ft each year from Truckee River basin. Variable amounts of El Dorado Canal water (up to 40 cfs, May to October, and about 7 cfs remainder of the year) diverted for irrigation and domestic use between Pollock Pines and Placerville. Water from Jenkinson Lake in North Fork Consumnes River basin diverted to Camino and substituted for flow from El Dorado Canal in some years. Since October 1962, water is imported from the Upper Rubicon River basin by way of Robbs Peak tunnel (see sta. no. 4298). See schematic diagram for South Fork American River basin.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	123	162	994	1,100	2,330	1,030	1,560	1,650	3,600	4,670	1,220	1,030
2	212	160	1,520	1,080	1,870	978	1,030	1,790	3,320	4,650	1,220	1,020
3	219	150	1,920	1,080	1,740	970	1,330	1,940	3,150	4,390	1,190	1,010
4	71	227	601	1,070	1,500	402	1,450	2,310	3,630	4,030	1,150	1,030
5	45	425	1,810	410	882	320	1,450	2,340	4,110	3,850	1,140	1,020
6	50	66	2,650	105	1,310	846	1,660	2,590	3,840	3,620	1,100	1,030
7	178	367	2,180	255	1,350	893	2,070	2,940	3,840	3,340	1,080	1,040
8	370	358	1,250	1,050	1,330	930	1,860	3,520	3,960	3,090	1,040	1,030
9	71	429	1,310	1,030	1,260	950	1,340	4,150	4,020	2,560	1,030	1,040
10	416	402	1,190	1,040	916	988	1,680	4,520	3,880	2,700	1,010	1,010
11	284	108	440	1,020	1,310	1,030	1,670	4,040	3,910	2,170	1,040	1,010
12	284	108	990	1,030	736	410	1,750	3,400	3,820	1,920	1,010	1,040
13	282	108	950	1,070	1,280	1,120	1,840	3,200	3,740	1,840	998	1,040
14	281	374	1,010	998	1,360	1,120	1,940	3,260	3,670	1,840	1,010	1,030
15	91	437	1,140	1,040	1,400	1,110	1,950	3,800	3,690	1,780	1,000	1,060
16	53	552	1,090	1,040	1,460	4,340	1,280	4,610	3,960	1,740	1,000	1,000
17	280	663	1,060	1,030	1,250	4,750	1,650	5,110	4,300	1,930	994	986
18	284	453	624	854	1,380	3,400	1,970	5,240	4,270	1,820	994	1,020
19	284	126	874	882	770	2,800	2,010	5,190	4,220	1,700	990	1,030
20	285	368	1,040	910	1,140	2,450	1,890	5,520	4,040	1,600	978	993
21	283	724	958	1,950	1,340	2,250	1,880	6,090	4,320	1,560	994	958
22	290	654	1,010	2,270	545	2,180	1,850	6,500	4,320	1,460	986	923
23	102	500	1,150	1,590	1,120	2,320	1,820	6,160	4,200	751	986	979
24	156	134	1,140	1,210	1,230	2,220	1,880	5,740	4,170	1,410	1,010	866
25	154	416	1,090	858	1,260	2,050	1,850	5,440	4,290	1,370	1,010	194
26	156	128	1,100	1,370	573	1,460	1,810	5,170	4,230	1,350	1,030	194
27	158	117	1,040	1,880	1,090	1,790	1,870	5,010	4,220	1,320	1,030	194
28	156	551	1,110	1,940	1,230	1,860	1,810	4,730	4,440	1,310	1,010	251
29	164	1,340	1,140	3,510	-----	1,900	1,670	4,410	3,850	1,270	1,010	218
30	166	822	1,140	3,270	-----	1,820	1,770	4,240	4,110	529	1,000	212
31	166	-----	1,100	3,350	-----	1,740	-----	3,990	-----	983	994	-----
TOTAL	6,114	11,429	36,621	41,292	34,962	52,427	51,590	128,600	119,120	68,963	32,254	25,458
MEAN	197	381	1,181	1,332	1,249	1,691	1,720	4,148	3,971	2,225	1,040	849
MAX	416	1,340	2,650	3,510	2,330	4,750	2,070	6,500	4,440	4,670	1,220	1,060
MIN	45	66	440	105	545	320	1,030	1,650	3,150	529	978	194
AC-FT	12,130	22,670	72,640	81,900	69,350	104,000	102,300	255,100	236,300	136,800	63,970	50,500

CAL YR 1966: TOTAL 297,717 MEAN 816 MAX 2,650 MIN 19 AC-FT 590,500
 WAT YR 1967: TOTAL 608,830 MEAN 1,668 MAX 6,500 MIN 45 AC-FT 1,208,000

SACRAMENTO RIVER BASIN

11-4445. SOUTH FORK AMERICAN RIVER NEAR PLACERVILLE, CALIF.

LOCATION.--Lat 38°46'16", long 120°48'55", in SW $\frac{1}{4}$ sec.25, T.11 N., R.10 E., on right bank 700 ft downstream from Chili Bar Dam, 0.5 mile upstream from Big Canyon, and 2.5 miles north of Placerville.

DRAINAGE AREA.--598 sq mi.

RECORDS AVAILABLE.--August 1911 to July 1920, July 1964 to September 1967. Monthly discharge only for some periods published in WSP 1315-A.

GAGE.--Digital water-stage recorder. Datum of gage is 931.05 ft above mean sea level (levels by Pacific Gas and Electric Co.). Aug. 11, 1911, to July 31, 1920, staff gage 0.6 mile downstream at different datum.

EXTREMES.--Maximum discharge during year, 9,550 cfs Mar. 16 (gage height, 9.72 ft); minimum daily, 92 cfs Sept. 26.

1911-20 (prior to regulation): Maximum discharge observed, 15,000 cfs Jan. 25, 1914 (gage height, 19.00 ft, site and datum then in use), from rating curve extended above 4,000 cfs; minimum daily observed, 50 cfs Aug. 27, 1918.

1964-67: Maximum discharge, 47,300 cfs Dec. 23, 1964 (gage height, 17.4 ft, from floodmarks), from rating curve extended above 17,000 cfs on basis of computations of flow over dam of maximum flow; minimum daily, 0.2 cfs Nov. 12, 1964.

REMARKS.--Records good. Flow regulated by storage, diversions, and powerplants. See schematic diagram for South Fork American River basin.

COOPERATION.--Water-stage recorder tape and 15 discharge measurements furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	207	216	599	1,100	2,970	1,070	1,840	1,880	3,670	4,820	1,240	1,450
2	207	205	1,700	1,070	2,160	1,010	1,690	1,960	3,330	4,790	1,260	604
3	207	201	2,350	1,080	2,020	994	1,250	2,090	3,120	4,630	1,240	1,090
4	209	201	854	1,530	1,720	620	1,630	2,420	3,510	4,110	1,200	1,100
5	209	235	2,280	763	1,160	467	1,680	2,560	4,160	3,890	1,200	1,080
6	205	215	4,060	145	1,150	854	2,150	2,880	3,790	3,630	1,160	1,110
7	204	412	2,700	126	1,510	942	3,210	3,830	3,830	3,380	1,140	1,140
8	208	383	1,490	615	1,350	956	2,370	3,700	3,940	3,210	1,120	1,100
9	209	386	1,640	1,050	1,520	972	1,820	4,280	4,070	3,090	1,130	1,110
10	205	313	1,230	1,060	1,010	986	1,820	4,790	3,860	2,790	1,100	1,060
11	373	211	755	1,200	1,380	1,210	2,110	4,090	3,830	2,150	1,110	1,080
12	296	204	861	924	957	1,050	2,050	3,490	3,730	2,000	1,100	1,100
13	305	204	1,050	1,090	1,250	1,450	2,130	3,390	3,650	1,800	1,110	1,110
14	298	206	1,210	1,040	1,420	1,310	2,120	3,410	3,680	1,820	1,110	1,100
15	302	179	1,030	1,070	1,510	1,330	2,170	3,780	3,790	1,790	1,120	1,120
16	207	567	1,130	1,070	1,400	5,290	1,770	4,580	4,130	1,770	1,110	1,100
17	208	648	1,090	1,060	1,260	6,400	1,680	5,190	4,640	1,980	1,110	1,110
18	210	397	753	902	1,390	4,070	2,380	5,330	4,770	1,960	1,100	1,110
19	312	359	883	927	885	3,200	2,450	5,240	4,380	1,840	1,110	1,180
20	335	413	1,070	1,200	1,150	2,800	2,270	5,640	4,220	1,230	1,100	1,140
21	452	754	998	2,950	1,320	2,560	2,230	6,330	4,490	1,560	1,390	1,100
22	541	857	1,050	4,040	765	2,510	2,190	6,680	4,470	1,480	809	1,330
23	388	684	1,160	1,860	1,080	2,690	2,300	6,630	4,330	845	1,080	1,390
24	208	377	1,150	1,960	1,220	2,640	2,520	6,190	4,230	1,400	1,120	1,080
25	208	211	1,120	961	1,290	2,170	2,380	5,920	4,400	1,380	1,160	194
26	207	103	1,120	1,640	726	1,760	2,210	5,600	4,360	1,360	1,130	92
27	203	203	1,080	2,220	1,090	1,710	2,220	5,500	4,340	1,640	1,120	99
28	203	386	1,100	2,240	1,210	1,900	2,140	4,980	4,640	1,010	1,090	105
29	204	1,520	1,110	4,700	-----	2,020	2,000	4,700	3,920	1,280	1,100	368
30	204	899	1,140	4,070	-----	1,870	1,950	4,410	4,120	728	1,120	110
31	212	-----	1,090	4,640	-----	1,930	-----	4,070	-----	959	1,230	-----
TOTAL	7,946	12,149	41,253	50,303	37,873	60,741	62,730	134,920	121,400	70,322	35,219	27,862
MEAN	256	405	1,331	1,623	1,353	1,959	2,091	4,352	4,047	2,268	1,136	929
MAX	541	1,520	4,060	4,700	2,970	6,400	3,210	6,680	4,770	4,820	1,390	1,450
MIN	203	103	753	126	726	467	1,250	1,880	3,120	728	809	92
AC-FT	15,760	24,100	81,820	99,770	75,120	120,500	124,400	267,600	240,800	139,500	69,860	55,260

CAL YR 1966: TOTAL 325,408
WAT YR 1967: TOTAL 662,718

MEAN 892
MEAN 1,816

MAX 4,060
MAX 6,680

MIN 103
MIN 92

AC-FT 645,400
AC-FT 1,314,000

11-4455. SOUTH FORK AMERICAN RIVER NEAR LOTUS, CALIF.

LOCATION.--Lat 38°49'05", long 120°56'45", in SW $\frac{1}{4}$ sec.11, T.11 N., R.9 E., on left bank 0.4 mile downstream from Greenwood Creek, 2.4 miles northwest of Lotus, and 3.3 miles northwest of Coloma.

DRAINAGE AREA.--673 sq mi.

RECORDS AVAILABLE.--May 1951 to September 1967.

GAGE.--Digital water-stage recorder. Altitude of gage is 635 ft (from topographic map). Prior to June 2, 1966, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--16 years, 1,219 cfs (882,500 acre-ft per year).

EXTREMES.--Maximum discharge during year, 14,200 cfs Jan. 21 (gage height, 11.54 ft); minimum daily, 94 cfs Sept. 27.

1951-67: Maximum discharge, 71,800 cfs Dec. 23, 1955 (gage height, 21.37 ft); minimum daily, 50 cfs Oct. 21, 22, 1964.

Maximum stage known since 1862 and prior to beginning of record, 20.4 ft, from floodmarks Nov. 21, 1950 (discharge, 64,500 cfs).

REMARKS.--Records good. Flow partly regulated by reservoirs and powerplants. Some diversions above station for irrigation and domestic use. See schematic diagram for South Fork American River basin. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	206	207	1,160	1,110	3,730	1,090	2,340	2,020	3,860	4,810	1,200	1,380
2	206	198	1,870	1,080	2,540	1,020	2,050	2,050	3,470	4,680	1,220	597
3	206	193	2,720	1,080	2,280	1,010	1,720	2,190	3,220	4,690	1,200	1,050
4	206	193	1,160	1,410	1,860	775	1,440	2,460	3,570	4,170	1,170	1,060
5	200	222	2,630	1,070	1,310	478	1,840	2,700	4,210	3,940	1,160	1,050
6	200	231	4,800	139	1,150	729	2,060	3,070	3,970	3,720	1,120	1,070
7	200	357	3,320	125	1,490	948	4,340	3,360	3,920	3,450	1,120	1,100
8	200	373	1,870	368	1,460	952	2,900	3,840	4,030	3,240	1,100	1,070
9	197	380	1,590	1,050	1,530	972	2,260	4,380	4,180	3,110	1,090	1,080
10	191	360	1,330	1,050	1,050	997	1,900	4,990	3,950	2,850	1,060	1,040
11	356	212	936	1,200	1,390	1,270	2,500	4,370	3,940	2,130	1,070	1,050
12	290	202	721	896	1,040	1,600	2,370	3,630	3,830	1,950	1,070	1,070
13	294	201	1,060	1,070	1,210	2,130	2,340	3,570	3,760	1,770	1,060	1,070
14	283	202	1,170	1,030	1,430	1,980	2,260	3,560	3,760	1,750	1,070	1,060
15	293	205	1,000	1,070	1,520	1,560	2,360	3,870	3,840	1,730	1,080	1,080
16	201	412	1,150	1,060	1,430	5,930	1,980	4,510	4,120	1,690	1,070	1,060
17	200	665	1,110	1,060	1,290	7,550	1,920	5,220	4,590	1,910	1,070	1,070
18	201	513	777	872	1,400	4,530	2,900	5,390	4,830	1,900	1,060	1,070
19	299	376	714	896	944	3,540	2,980	5,250	4,430	1,810	1,060	1,130
20	324	493	1,050	1,170	1,120	3,020	2,680	5,560	4,290	1,210	1,060	1,120
21	438	779	960	4,070	1,340	2,730	2,620	6,280	4,470	1,520	1,320	1,070
22	523	1,010	984	6,270	864	2,630	2,520	6,720	4,500	1,450	796	1,310
23	372	818	1,180	2,200	1,020	2,830	2,730	6,740	4,360	886	1,040	1,310
24	201	352	1,180	2,460	1,240	2,810	3,120	6,270	4,210	1,300	1,070	1,090
25	201	260	1,160	1,380	1,330	2,310	2,850	6,030	4,360	1,350	1,120	386
26	196	98	1,160	2,050	859	2,050	2,540	5,620	4,390	1,330	1,100	104
27	194	165	1,120	2,770	1,020	1,720	2,520	5,580	4,290	1,560	1,090	94
28	193	158	1,120	2,760	1,230	1,780	2,380	5,060	4,650	1,030	1,050	103
29	194	1,510	1,130	5,990	-----	2,090	2,240	4,770	4,010	1,240	1,060	307
30	194	968	1,150	5,130	-----	1,960	2,080	4,500	4,000	786	1,080	144
31	198	-----	1,100	5,770	-----	2,130	-----	4,170	-----	841	1,190	-----
TOTAL	7,657	12,313	44,382	59,656	40,077	67,121	72,740	137,730	123,010	69,803	34,026	27,195
MEAN	247	410	1,432	1,924	1,431	2,165	2,425	4,443	4,100	2,252	1,098	907
MAX	523	1,510	4,800	6,270	3,730	7,550	4,340	6,740	4,830	4,810	1,320	1,380
MIN	191	98	714	125	859	478	1,440	2,020	3,220	786	796	94
AC-FT	15,190	24,420	88,030	118,300	79,490	133,100	144,300	273,200	244,000	138,500	67,490	53,940

CAL YR 1966: TOTAL 326,119 MEAN 893 MAX 4,800 MIN 98 AC-FT 646,800
WAT YR 1967: TOTAL 695,710 MEAN 1,906 MAX 7,550 MIN 94 AC-FT 1,380,000

SACRAMENTO RIVER BASIN

11-4462. FOLSOM LAKE NEAR FOLSOM, CALIF.

LOCATION.--Lat 38°42'29", long 121°09'22", in NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec.24, T.10 N., R.7 E., near center of dam on American River 0.7 mile downstream from South Fork American River and 2.3 miles northeast of Folsom.

DRAINAGE AREA.--1,861 sq mi (revised).

RECORDS AVAILABLE.--February 1955 to September 1967. Prior to October 1959, published as Folsom Reservoir near Folsom.

GAGE.--Graphic water-stage recorder. Datum of gage is at mean sea level (levels by Bureau of Reclamation).

EXTREMES.--Maximum contents during year, 1,002,600 acre-ft July 3 (elevation, 465.33 ft); minimum, 545,200 acre-ft Dec. 19 (elevation, 419.64 ft).

1955-67: Maximum contents, 1,024,400 acre-ft June 15, 1963 (elevation, 467.23 ft); minimum since storage pool first filled, 261,500 acre-ft Jan. 7, 1960 (elevation, 378.23 ft).

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 (invert of lower tier of river outlets) and 466.0 ft (gross pool elevation), all of which is available for release. Spillway design flood pool elevation, 475.4 ft (capacity, 1,120,200 acre-ft). Records, including extremes, represent usable contents at 2400 hours. See schematic diagram for South Fork American River basin.

COOPERATION.--Records furnished by Bureau of Reclamation.

CAPACITY TABLE (ELEVATION, IN FEET, AND CONTENTS, IN ACRE-FT)

370	222,300	420	548,300
380	270,700	440	732,900
390	327,800	460	942,600
400	393,300	480	1,176,000

CONTENTS, IN THOUSANDS OF ACRE-FEET, AT 2400 HOURS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	651.5	646.2	603.3	564.0	586.2	570.5	630.4	658.4	907.4	1,000.6	967.8	892.7
2	650.4	644.3	613.0	565.7	580.8	572.1	630.1	656.1	907.4	1,001.4	966.2	890.1
3	649.2	642.3	625.4	567.3	577.4	573.7	628.2	654.5	907.1	1,002.6	964.0	886.4
4	648.0	640.3	625.8	569.3	574.7	576.0	625.9	653.3	908.5	1,002.0	962.1	882.4
5	646.9	638.6	637.8	571.2	569.8	577.5	623.8	652.8	909.6	999.8	959.8	878.4
6	645.8	638.6	654.0	570.8	564.3	579.8	625.6	653.3	912.6	998.3	957.2	875.7
7	645.7	637.0	637.9	570.1	559.8	583.4	637.6	655.1	915.6	997.9	954.0	871.9
8	644.7	635.1	604.4	569.6	558.6	587.3	641.7	661.6	917.9	998.5	951.2	866.0
9	643.7	633.1	573.3	570.6	557.5	591.4	643.0	671.5	920.6	998.8	948.3	859.9
10	642.9	630.9	565.4	572.6	557.3	595.7	644.6	684.3	922.9	999.2	945.0	852.4
11	643.2	628.6	557.4	574.7	556.5	602.8	647.4	693.0	924.2	998.0	943.3	844.9
12	643.5	626.4	553.5	576.6	555.5	614.6	648.5	698.1	925.6	997.2	941.9	839.0
13	643.5	624.8	552.0	578.7	554.1	628.6	649.1	701.7	929.0	996.9	939.4	832.2
14	643.3	623.6	551.2	580.6	554.5	633.1	649.1	706.1	931.6	996.8	937.2	827.1
15	643.8	622.2	549.8	582.1	554.3	630.5	649.1	711.9	933.9	996.7	934.9	823.7
16	643.1	622.6	548.4	583.4	555.7	667.5	647.8	722.0	938.0	996.3	932.8	822.1
17	642.6	623.0	547.7	584.4	557.2	680.7	646.7	735.3	943.2	995.9	930.6	819.8
18	642.3	621.8	546.2	585.0	559.4	661.6	650.8	749.6	950.4	996.3	928.4	819.2
19	642.8	620.9	545.2	585.5	560.5	643.3	653.6	762.6	956.7	995.7	926.2	818.9
20	643.7	623.9	546.7	587.8	561.6	631.4	654.8	777.3	961.6	993.8	923.2	819.1
21	645.0	627.5	547.7	627.4	563.1	627.0	656.3	795.7	966.8	992.3	920.2	818.4
22	646.1	628.6	550.1	674.4	564.1	629.4	657.1	815.5	972.6	990.7	917.5	818.4
23	646.1	625.0	552.2	679.4	564.4	632.9	659.2	834.1	977.7	988.1	915.2	818.2
24	646.4	618.9	553.1	682.0	565.9	635.9	662.9	849.9	980.7	985.7	913.3	816.8
25	647.2	612.9	553.9	680.5	567.8	635.9	665.2	863.2	984.2	983.8	911.5	814.4
26	643.2	606.1	554.5	678.2	568.4	634.4	665.7	874.3	988.2	982.3	908.6	811.3
27	649.4	599.7	555.1	675.5	568.8	632.7	666.3	884.8	991.8	981.1	904.5	807.9
28	650.1	593.8	556.5	656.3	569.8	631.3	665.6	893.2	995.9	978.9	900.8	804.4
29	650.4	599.7	558.3	664.8	-----	630.5	663.5	899.2	997.7	977.0	898.6	801.0
30	650.2	601.6	560.2	645.7	-----	628.6	661.2	903.1	998.3	974.0	896.2	798.6
31	643.0	-----	562.0	620.2	-----	629.6	-----	905.3	-----	970.5	894.1	-----
(+)	431.15	426.09	421.60	428.14	422.49	429.17	432.56	456.60	464.95	462.49	455.57	446.52
(#)	=4.7	=46.4	=39.6	=58.2	=50.4	=59.8	=31.6	=244.1	=93.0	=27.8	=76.4	=95.5
(++)	3.150	980	470	530	800	1,520	1,530	5,050	5,460	8,660	7,760	5,300
Max	651.5	646.2	654.0	682.0	586.2	680.7	666.3	905.3	998.3	1,002.6	967.8	892.7
Min	642.3	593.8	545.2	564.0	554.1	570.5	623.8	652.8	907.1	970.5	894.1	798.6

Calendar year 1966..... # +7.4
 Water year 1966-67..... # +145.9

Max 916.8
 Max 1,002.6
 Min 545.2
 Min 545.2

+ Elevation, in feet, at end of month.

Change in contents, in thousands of acre-feet.

++ Evaporation, in acre-feet.

SACRAMENTO RIVER BASIN

973

11-4465. AMERICAN RIVER AT FAIR OAKS, CALIF.

LOCATION.--Lat 38°38'08", long 121°13'36", in SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.17, T.9 N., R.7 E., on right bank 2,100 ft downstream from Nimbus Dam, 2.4 miles east of Fair Oaks, 8.1 miles downstream from South Fork, and at mile 22.2.

DRAINAGE AREA.--1,888 sq mi.

RECORDS AVAILABLE.--November 1904 to September 1967. Monthly discharge only for some periods, published in WSP 1315-A.

GAGE.--Graphic water-stage recorder. Datum of gage is 77.53 ft above mean sea level. Prior to Nov. 7, 1930, staff gages or water-stage recorders at several sites 2.25 miles downstream all at datum 11.74 ft lower. Nov. 7, 1930, to Dec. 31, 1957, at site 2.2 miles downstream at datum 12.74 ft lower.

AVERAGE DISCHARGE.--63 years, 3,739 cfs (2,707,000 acre-ft per year), adjusted for change in contents, diversions, and evaporation from Folsom Lake since 1955.

EXTREMES.--Maximum discharge during year, 37,000 cfs Jan. 31 (gage height, 10.26 ft); minimum daily, 488 cfs Oct. 24.

1904-52 (prior to regulation by Folsom Lake): Maximum discharge, 180,000 cfs Nov. 21, 1950 (gage height, 31.85 ft, site and datum then in use); minimum, 3.6 cfs Aug. 16, 1924.

1953-67: Maximum discharge, 115,000 cfs Dec. 23-25, 1964 (gage height, 21.65 ft); minimum, 86 cfs Apr. 7, 1955.

REMARKS.--Records good. Flow regulated by Folsom Lake beginning Feb. 25, 1955 (see sta. no. 4462). 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 powerplant. Many diversions above station for irrigation, municipal, and domestic water supply. Diversions of San Juan Suburban Water District, Natomas Water Co., and State of California are made at Folsom Dam. Some inflow from Bear and Yuba River basins. Records of water temperatures at or near this station for the water year 1967 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.				
1	949	1,480	3,320	1,980	30,900	2,630	7,570	7,570	8,320	8,170	3,490	3,170				
2	982	1,490	4,040	1,980	12,900	2,390	7,600	7,540	8,110	8,290	3,490	3,150				
3	932	1,480	5,300	2,030	10,300	2,340	7,600	7,540	8,050	8,320	3,430	3,150				
4	982	1,450	5,170	2,060	8,360	2,010	7,630	7,540	7,960	8,260	3,450	3,190				
5	971	1,450	5,570	2,060	8,300	1,990	7,570	7,600	8,080	8,260	3,550	3,210				
6	960	1,420	8,730	2,060	7,880	1,810	7,810	7,600	8,110	7,360	3,570	3,230				
7	971	1,400	19,100	2,090	7,760	1,520	7,660	7,600	7,900	5,860	3,650	4,020				
8	982	1,450	22,600	2,090	6,800	1,520	7,600	7,630	8,020	5,100	3,690	5,150				
9	938	1,430	19,200	2,030	5,580	1,520	7,600	7,510	8,080	5,080	3,730	5,080				
10	720	1,420	9,780	1,800	5,300	1,460	7,600	7,540	8,050	4,850	3,590	4,980				
11	730	1,420	8,830	1,750	4,990	1,570	7,810	7,570	8,080	4,550	3,170	5,000				
12	740	1,400	5,070	1,520	4,960	1,630	7,630	7,690	8,050	4,020	3,310	5,000				
13	750	1,390	4,110	1,520	5,150	2,110	7,600	7,510	7,990	4,050	3,310	4,800				
14	740	1,390	3,580	1,500	5,330	4,850	7,660	7,480	8,050	4,100	3,310	4,050				
15	740	1,390	3,560	1,500	4,520	7,400	7,600	7,450	8,110	4,120	3,310	3,330				
16	710	1,400	3,560	1,510	3,960	10,000	7,660	7,660	8,200	4,020	3,270	2,420				
17	740	1,670	3,580	1,510	2,730	24,200	7,600	7,720	8,650	3,920	3,230	2,440				
18	740	1,910	3,580	1,510	3,420	27,200	7,720	7,630	8,710	3,710	3,250	2,420				
19	740	1,910	3,020	1,510	3,420	19,400	7,750	7,750	8,620	3,610	3,250	1,840				
20	740	1,910	2,560	1,520	3,360	19,100	7,660	7,600	8,530	3,630	3,270	2,040				
21	750	2,240	2,240	1,560	3,100	12,200	7,810	7,600	8,530	3,650	3,290	2,030				
22	750	3,340	1,910	3,060	2,860	8,470	7,810	7,570	8,590	3,670	3,250	2,060				
23	740	3,870	1,930	7,010	2,880	8,470	7,810	7,750	8,440	3,670	3,250	2,060				
24	488	3,890	1,960	7,960	2,880	8,380	7,780	7,960	8,440	3,650	3,330	2,060				
25	497	3,920	1,960	8,270	2,880	8,380	7,600	8,020	8,590	3,590	3,330	2,040				
26	506	3,940	1,980	8,580	2,880	8,440	7,690	8,140	8,500	3,450	3,330	2,040				
27	515	3,890	1,950	10,900	2,860	7,840	7,660	7,930	8,500	3,470	3,310	2,040				
28	506	3,870	1,950	21,000	2,860	7,660	7,690	8,260	8,470	3,550	3,270	2,040				
29	488	3,780	1,960	24,000	-----	7,600	7,720	8,350	8,410	3,650	3,310	2,040				
30	561	3,360	1,960	30,900	-----	7,690	7,660	8,320	8,380	3,650	3,230	2,040				
31	1,460	-----	1,980	35,900	-----	7,630	-----	8,380	-----	3,610	3,170	-----				
Total	24,068	66,360	166,040	194,670	169,020	229,410	230,160	240,010	248,520	148,890	104,390	92,120				
Mean	776	2,212	5,356	6,280	6,036	7,400	7,572	7,742	8,284	4,803	3,367	3,071				
Max	1,460	3,940	22,600	35,900	30,900	27,200	7,810	8,380	8,710	8,320	3,730	5,150				
Min	488	1,390	1,910	1,500	2,860	1,460	7,570	7,450	7,900	3,450	3,170	1,840				
Ac-ft	47,740	131,600	329,300	386,100	335,200	455,000	456,500	476,100	492,900	295,300	207,100	182,700				
Mean †	846	1,497	4,759	7,275	5,182	8,441	8,270	11,870	10,030	4,617	2,379	1,668				
Ac-ft†	51,990	89,100	292,600	447,300	287,800	519,500	492,100	729,700	597,100	283,900	146,300	99,240				
(†)	5,800	2,920	2,380	2,480	2,160	2,640	2,460	4,440	5,740	7,770	7,840	6,740				
Cal yr 1966: Total	735,626		Mean	2,015	Max	22,600	Min	488	Ac-ft	1,459,000		Mean †	2,169	Ac-ft †	1,570,000	
Wtr yr 1967: Total	1,913,658		Mean	5,243	Max	35,900	Min	488	Ac-ft	3,796,000		Mean †	5,575	Ac-ft †	4,036,000	

† Diversion, in acre-feet, to Natomas Water Co., San Juan Suburban Water District, and to State of California; furnished by Bureau of Reclamation.

‡ Adjusted for change in contents, diversions, and evaporation from Folsom Lake.

SACRAMENTO RIVER BASIN

11-4473. DRY CREEK TRIBUTARY NEAR ROSEVILLE, CALIF.

LOCATION.--Lat 38°43'44", long 121°21'08", in NW¼ sec.17, T.10 N., R.6 E., on left bank 5 ft upstream from road culvert and 3.7 miles southwest of Roseville.

DRAINAGE AREA.--0.39 sq mi.

RECORDS AVAILABLE.--Water years 1960-63 (annual maximum), October 1963 to September 1967, discontinued as a continuous-record station; converted to a crest-stage partial-record station.

GAGE.--Graphic water-stage recorder, crest-stage gage, and tipping-bucket rain gage. Altitude of gage is 102 ft (from topographic map).

EXTREMES.--Maximum discharge during year, 56 cfs Jan. 21 (gage height, 14.70 ft); no flow for several months. 1959-67: Maximum discharge, 220 cfs Feb. 9, 1962 (gage height, 17.00 ft), from rating curve extended above 32 cfs on basis of computation of flow through culvert and over roadway at gage heights 15.28 and 17.00 ft.
1963-67: No flow for several months in each year.

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

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	1.2	0	0.10	0	0					
2		0	5.2	0	0	0	0					
3		0	.30	0	0	0	0					
4		0	3.0	0	0	0	0					
5		0	5.7	0	0	0	0					
6		0	3.8	0	0	0	5.6					
7		0	.20	0	0	0	.30					
8		0	0	0	0	0	0					
9		0	0	0	0	0	0					
10		0	0	0	0	0	.90					
11		0	0	0	0	.10	.30					
12		0	0	0	0	.40	0					
13		0	0	0	0	.40	0					
14		0	0	0	0	.10	0					
15		0	0	0	0	.30	.40					
16		.10	0	0	0	6.7	0					
17		0	0	0	0	.10	.30					
18		0	0	0	0	0	.30					
19		.80	0	0	0	0	.50					
20		.22	0	2.0	0	0	.20					
21		1.3	0	24	0	0	.90					
22		.20	0	.90	0	0	.10					
23		0	0	.10	0	0	0					
24		0	0	6.2	0	0	0					
25		0	0	.20	0	0	0					
26		0	0	1.3	0	0	0					
27		0	0	1.0	0	0	0					
28		.70	0	4.9	0	0	0					
29		1.1	0	4.8	-----	0	.10					
30		.10	0	5.5	-----	1.3	.10					
31		-----	0	1.8	-----	.20	-----					
Total	0	6.50	19.40	52.70	0.10	9.60	10.00	0	0	0	0	0
Mean	0	0.22	0.63	1.70	.004	0.31	0.33	0	0	0	0	0
Max	0	2.2	5.7	24	0.10	6.7	5.6	0	0	0	0	0
Min	0	0	0	0	0	0	0	0	0	0	0	0
Ac-ft	0	1.3	38	105	0.2	19	20	0	0	0	0	0
(†)	0	4.0	2.0	5.8	0.3	3.3	3.9	0.1	0.6	0	0	0

Calendar year 1966: Total 35.20 Mean 0.096 Max 5.7 Min 0 Ac-ft 70
Water year 1966-67: Total 98.30 Mean 0.27 Max 24 Min 0 Ac-ft 195

† Precipitation, in inches.

SACRAMENTO RIVER BASIN

975

11-4473.6. ARCADE CREEK NEAR DEL PASO HEIGHTS, CALIF.

LOCATION.--Lat 38°38'28", long 121°22'38", in Del Paso Grant, on right bank 1,200 ft upstream from bridge on Interstate Highway 80 and 1.6 miles east of city limits of Del Paso Heights.

DRAINAGE AREA.--31.5 sq mi.

RECORDS AVAILABLE.--July 1963 to September 1967.

GAGE.--Graphic water-stage recorder and concrete control. Datum of gage is 47.98 ft above mean sea level (levels by County of Sacramento). Prior to Mar. 13, 1967, digital water-stage recorder at same site and datum.

EXTREMES.--Maximum discharge during year, 2,000 cfs Jan. 21 (gage height, 14.42 ft); minimum daily, 0.10 cfs Jan. 10, 17, 19.

1963-67: Maximum discharge, 2,000 cfs Jan. 21, 1967 (gage height, 14.42 ft); no flow for several days in 1963-66.

REMARKS.--Records fair. Low summer flow sustained by residential and industrial waste water.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.3	1.4	118	0.40	25	1.0	56	2.4	12	4.4	4.4	3.2
2	1.2	1.0	317	.60	10	.90	8.2	1.3	3.6	4.2	4.7	2.6
3	.90	1.1	180	.30	7.0	.70	3.2	1.0	1.8	3.6	4.7	2.4
4	1.1	.90	86	.30	5.3	.60	2.1	.90	1.3	3.9	4.7	2.1
5	1.0	.90	470	.40	4.4	.60	1.9	.80	1.6	3.6	4.4	2.1
6	1.4	82	416	.60	3.9	.50	165	.70	1.4	3.6	4.4	2.1
7	1.5	53	55	.40	3.1	.60	181	.90	1.5	3.4	3.6	1.9
8	1.3	8.6	13	.20	2.9	.70	15	1.1	1.3	3.6	4.2	1.9
9	1.4	2.9	7.7	.20	2.5	.60	5.0	1.0	1.5	3.6	4.2	1.9
10	1.4	1.4	24	.10	2.3	1.3	32	6.6	1.6	3.6	5.0	1.6
11	1.2	.80	7.2	.20	2.0	38	113	1.9	2.4	4.2	5.3	2.0
12	.90	.50	4.4	.20	1.7	83	13	.80	2.4	5.6	5.0	2.0
13	.60	.30	3.0	.20	1.7	75	4.4	.60	11	5.6	4.4	1.9
14	.70	.20	2.4	.20	1.4	50	2.6	.80	2.6	5.6	4.2	1.8
15	.70	20	1.9	.20	1.3	14	24	1.4	2.8	6.0	4.7	1.9
16	.80	122	1.6	.20	1.1	572	9.0	2.1	3.2	5.6	4.4	1.8
17	.70	14	1.8	.10	1.1	85	14	2.8	2.4	5.0	4.7	1.9
18	.90	4.2	1.5	.20	1.0	12	42	2.4	3.2	4.7	4.7	1.8
19	.90	100	1.4	.10	1.0	5.6	67	2.4	2.6	4.4	4.4	1.5
20	1.1	466	1.3	62	.90	3.6	25	2.6	2.6	5.6	4.4	1.3
21	1.0	225	1.1	1,020	.80	2.6	62	2.8	3.6	5.6	3.6	1.3
22	.70	116	.90	642	.70	1.9	22	3.0	2.6	5.0	3.9	1.5
23	.60	13	.90	25	.70	3.0	42	3.2	2.4	4.2	3.9	1.3
24	.80	6.0	.80	516	.70	3.6	25	3.0	3.2	3.6	3.9	1.1
25	1.1	3.2	.70	154	22	1.6	7.4	2.8	3.4	4.2	3.9	1.0
26	1.1	2.2	.60	57	6.3	1.4	3.4	2.8	3.2	4.2	3.9	1.3
27	.90	1.5	.60	100	2.2	1.0	9.6	2.4	3.4	4.7	3.6	4.4
28	1.1	59	.50	284	1.4	1.0	3.6	2.6	3.9	4.4	3.2	1.5
29	1.0	110	.40	431	- - - -	1.9	2.1	2.6	3.9	4.2	3.2	1.5
30	1.0	21	.40	379	- - - -	26	12	2.6	4.4	4.4	3.0	1.3
31	1.3	- - - -	.40	184	- - - -	76	- - - -	2.1	- - - -	4.4	3.4	- - - -
Total	31.60	1,438.10	1,720.50	3,359.10	114.40	1,065.70	972.5	64.40	96.8	138.7	130.0	55.9
Mean	1.02	47.9	55.5	124	4.09	34.4	32.4	2.08	3.23	4.47	4.19	1.86
Max	1.5	466	470	1,020	25	572	181	6.6	12	6.0	5.3	4.4
Min	0.60	0.20	0.40	0.10	0.70	0.50	1.9	0.60	1.3	3.4	3.0	1.0
Ac-ft	63	2,850	3,410	7,650	227	2,110	1,930	128	192	275	258	111

Cal yr 1966: Total 4,566.1 Mean 12.5 Max 470 Min 0.10 Ac-ft 9,060

Wtr yr 1967: Total 9,687.7 Mean 26.5 Max 1,020 Min 0.10 Ac-ft 19,220

Peak discharge (base, 250 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-16	0500	7.58	284	1-24	1730	11.13	930
11-20	0515	10.27	710	1-30	1630	10.06	674
12-05	2045	10.32	740	3-16	1100	10.56	970
1-21	2330	14.42	2,000	4-06	2400	7.98	465

SACRAMENTO RIVER BASIN

11-4475. SACRAMENTO RIVER AT SACRAMENTO, CALIF.
(Hydrologic bench-mark station)

LOCATION.--Lat 38°35'20", long 121°30'15", on left bank 1,000 ft upstream from I Street Bridge, in city of Sacramento, and 0.5 mile downstream from American River.

DRAINAGE AREA.--23,530 sq mi.

RECORDS AVAILABLE.--January 1904 to July 1905 (gage heights only), June to November 1921, October 1948 to September 1967. Gage heights collected in this vicinity November 1879 to May 1888, December 1890 to September 1963 are contained in reports of U.S. Weather Bureau.

GAGE.--Graphic water-stage recorder. Datum of gage is at mean sea level. Prior to Oct. 15, 1912, staff gage in vicinity of I Street Bridge. Oct. 15, 1912, to Nov. 16, 1956, water-stage recorder at various sites in vicinity of I Street Bridge. Prior to Nov. 16, 1956, datum of gages at low-water mark of Oct. 23, 1856, 0.12 ft above mean sea level, and 3.10 ft above datum of Corps of Engineers. Auxiliary water-stage recorder on right bank 10.8 miles downstream, near Freeport.

AVERAGE DISCHARGE.--19 years (1948-67), 23,190 cfs (16,790,000 acre-ft per year).

EXTREMES.--Maximum discharge during year, 90,900 cfs Jan. 31 (gage height, 27.40 ft); minimum daily, 8,610 cfs Oct. 29; minimum gage height, 1.99 ft Oct. 23, 24.

1948-67: Maximum discharge, 104,000 cfs Nov. 21, 1950 (gage height, 30.14 ft, site and datum then in use); minimum daily, 5,590 cfs July 20, 1949.

Maximum discharge known prior to Nov. 21, 1950, 103,000 cfs Jan. 17, 1909 (gage height, 29.6 ft, present datum), from reports of California Department of Water Resources.

REMARKS.--Records good. Natural flow of stream affected by storage reservoirs, power developments, diversions for irrigation, and return flow from irrigated areas. A portion of the flow bypasses station during flood periods through Yolo bypass (see sta. no. 4530). Records of chemical analyses, water temperatures, and suspended-sediment loads at or near this gaging station for the water year 1967 are published in Part 2 of this report.

COOPERATION.--Records collected and prepared in cooperation with the California Department of Water Resources.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9.330	10.000	39.700	24.000	90.100	27.100	40.100	55.600	54.800	31.200	14.700	16.400
2	9.420	10.200	40.900	23.500	81.900	27.000	42.100	53.700	52.500	30.700	14.800	16.600
3	9.050	10.100	48.100	22.700	76.400	26.300	42.700	51.500	50.100	29.900	14.700	16.700
4	9.490	10.300	55.300	21.900	72.800	25.500	41.700	49.000	47.900	29.000	14.400	17.000
5	9.570	10.700	59.400	21.600	70.800	25.100	39.900	46.800	46.600	27.900	14.900	17.300
6	9.720	11.500	66.400	21.100	69.100	24.000	39.200	45.100	46.100	25.500	15.000	17.400
7	9.290	11.300	73.000	20.400	67.800	22.500	44.200	43.400	46.100	23.600	14.900	18.000
8	9.190	12.300	77.300	19.300	66.300	22.200	50.100	42.500	46.300	21.700	15.000	19.800
9	9.540	12.900	76.000	18.800	64.500	22.000	52.000	43.400	46.100	20.000	14.900	20.300
10	9.300	12.600	68.900	18.000	62.900	21.400	51.600	45.600	45.300	18.600	14.900	20.400
11	9.380	12.300	65.200	17.700	60.800	21.300	51.500	48.200	44.900	17.900	14.500	20.500
12	9.500	12.100	63.200	17.200	58.400	24.500	51.600	49.900	44.500	18.200	14.600	21.200
13	9.050	12.100	60.900	16.700	55.700	27.100	51.000	49.200	44.300	18.100	14.900	21.600
14	9.080	11.900	58.200	16.500	52.600	32.400	49.500	46.900	44.700	18.000	14.900	21.100
15	9.100	12.700	54.500	16.500	49.500	35.800	48.500	44.300	44.200	17.300	15.000	20.700
16	9.070	14.100	50.800	16.400	45.800	37.700	48.100	44.100	43.400	17.600	14.700	19.600
17	9.110	18.600	46.700	16.400	42.700	57.100	47.800	45.300	43.300	16.700	14.600	19.400
18	9.090	20.000	42.000	16.100	39.800	76.700	47.900	47.500	43.700	16.200	14.500	19.600
19	9.040	18.600	37.800	16.100	37.800	76.300	50.200	50.100	43.800	16.700	14.600	19.700
20	9.080	18.900	34.500	15.600	36.000	75.000	52.600	52.000	43.700	16.400	14.700	18.800
21	9.000	26.300	32.800	22.000	34.300	71.100	54.700	53.700	43.300	16.100	15.000	17.900
22	9.140	35.200	31.000	48.700	33.700	63.800	56.300	55.700	41.800	16.200	15.000	18.400
23	8.890	35.900	30.600	66.600	31.400	60.500	56.500	57.800	40.600	16.200	15.200	18.200
24	8.850	32.500	31.700	70.300	30.800	58.300	56.500	59.900	38.900	15.500	15.100	17.900
25	8.720	29.800	30.800	70.200	29.900	57.200	56.800	61.500	36.400	15.300	15.200	17.700
26	8.800	27.100	29.700	68.200	29.800	55.200	57.500	62.700	34.700	15.200	15.600	17.400
27	8.800	25.400	28.300	67.300	28.900	51.700	57.800	63.000	34.100	15.900	15.600	17.100
28	8.710	24.800	27.100	73.300	28.200	47.100	57.700	62.500	33.200	15.800	16.000	17.000
29	8.610	25.400	26.800	79.300	- - - - -	43.400	57.600	61.400	33.400	15.800	16.100	17.000
30	8.690	32.300	26.300	86.100	- - - - -	41.000	57.000	59.700	32.000	15.500	16.300	16.500
31	9.290	- - - - -	25.400	90.700	- - - - -	39.500	- - - - -	57.400	- - - - -	15.000	16.300	- - - - -
Total	282.910	557.900	1,439.200	1,119.200	1,448.600	1,295.800	1,510.700	1,609.900	1,290.700	604.200	466.600	557.200
Mean	9.130	18.600	46.420	36.100	51.740	41.300	50.360	51.930	43.020	19.490	15.050	18.570
Max	9.720	35.900	77.300	90.700	90.100	76.700	57.800	63.000	54.800	31.200	16.300	21.600
Min	8.610	10.000	25.400	15.600	28.200	21.300	39.200	42.500	32.000	15.000	14.400	16.400
Ac-ft	561.100	1,107.000	2,855.000	2,220.000	2,873.000	2,570.000	2,996.000	3,193.000	2,560.000	1,198.000	925.500	1,105.000
Cal yr 1966: Total	7,288.720	Mean	19.370	Max	77.300	Min	8.120	Ac-ft	14,460.000			
Wtr yr 1967: Total	12,182.910	Mean	33.380	Max	90.700	Min	8.610	Ac-ft	24,160.000			

SACRAMENTO RIVER BASIN

977

11-4485. ADOBE CREEK NEAR KELSEYVILLE, CALIF.

LOCATION.--Lat 38°55'40", long 122°52'45", in SE $\frac{1}{4}$ sec.5, T.12 N., R.9 W., on left bank 2.5 miles upstream from Highland Creek and 4.2 miles south of Kelseyville.

DRAINAGE AREA.--6.36 sq mi.

RECORDS AVAILABLE.--October 1954 to September 1967.

GAGE.--Digital water-stage recorder and concrete control. Datum of gage is 1,478.1 ft above mean sea level (levels by Topographic Division). Prior to Aug. 18, 1967, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--13 years, 12.0 cfs (8,690 acre-ft per year); median of yearly mean discharges, 9.6 cfs (7,000 acre-ft per year).

EXTREMES.--Maximum discharge during year, 992 cfs Jan. 21 (gage height, 7.93 ft); no flow for several months. 1954-67: Maximum discharge, 1,500 cfs Dec. 22, 1964 (gage height, 9.11 ft); maximum gage height, 9.22 ft Jan. 31, 1963; no flow at times in each year.

REMARKS.--Records good above 10 cfs and fair below. Some regulation and diversions above station for irrigation.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	24	2.0	59	2.4	30	10	1.8			
2		0	285	1.8	34	2.2	22	8.8	12			
3		0	84	1.8	24	2.2	18	7.5	5.0			
4		0	400	1.8	18	2.2	16	6.8	2.7			
5		0	230	1.7	14	2.0	18	6.4	2.2			
6		0	103	1.7	12	1.8	58	6.1	2.0			
7		0	55	1.7	9.5	1.8	32	5.7	1.8			
8		0	31	1.6	8.1	1.8	24	5.3	1.6			
9		0	22	1.5	6.8	1.7	19	5.3	1.7			
10		0	19	1.5	6.1	4.1	37	6.1	1.6			
11		0	15	1.5	5.7	70	29	4.2	1.5			
12		.04	12	1.5	5.3	98	22	4.6	1.5			
13		.13	12	1.5	5.0	72	18	4.6	1.4			
14		3.7	10	1.5	4.6	49	15	4.2	1.4			
15		39	8.8	1.4		108	16	3.5	1.3			
16		28	6.4	1.4	4.6	298	12	3.5	1.3			
17		3.9	5.7	1.4	3.9	74	55	3.2	1.2			
18		2.0	5.0	1.4	3.9	38	55	3.2	1.1			
19		161	5.0	1.4	3.5	24	47	2.7	1.1			
20		161	4.6	1.78	3.2	27	35	2.7	1.1			
21		80	3.9	610	3.2	19	31	2.4	1.0			
22		43	3.5	118	2.9	18	24	2.2	.98			
23		17	3.5	45	2.7	29	28	1.7	.82			
24		8.8	3.2	113	2.7	18	22	1.8	.71			
25		5.7	2.9	59	3.9	15	19	1.8	.52			
26		4.2	2.7	59	2.7	12	17	1.7	.46			
27		3.2	2.4	63	2.4	11	16	1.6	.40			
28		10	2.2	168	2.4	11	14	1.6	.32			
29		14	2.2	294	-----	8.8	12	1.6	.22			
30		8.1	2.2	222	-----	45	11	1.6	0			
31		-----	2.0	172	-----	44	-----	1.6	-----			-----
Total	0	592.77	1,368.2	2,131.1	259.1	1,147.9	772	124.0	50.73	0	0	0
Mean	0	19.8	44.0	68.7	9.25	37.0	25.7	4.00	1.69	0	0	0
Max	0	161	400	610	59	298	58	10	12	0	0	0
Min	0	0	2.0	1.4	2.4	1.7	1.1	1.6	0	0	0	0
Ac-ft	0	1,180	2,710	4,230	514	2,280	1,530	246	101	0	0	0

Cal yr 1966: Total 4,751.87 Mean 13.0 Max 774 Min 0 Ac-ft 9,430
 Wtr yr 1967: Total 6,445.80 Mean 17.6 Max 610 Min 0 Ac-ft 12,790

Peak discharge (base, 400 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-19	2100	7.52	828	1-21	1000	7.93	992
12- 2	1500	7.76	924	1-29	0400	7.02	642
12- 4	1600	7.44	796	3-15	2400	6.83	576

SACRAMENTO RIVER BASIN

11-4489. HIGHLAND CREEK ABOVE HIGHLAND CREEK DAM, CALIF.

LOCATION.--Lat 38°55'45", long 122°55'10", in NW¼SE¼ sec.36, T.13 N., R.10 W., on left bank 100 ft downstream from Pipeline Creek, 1.7 miles upstream from Highland Creek Dam, and 5.7 miles southwest of Kelseyville.

DRAINAGE AREA.--11.9 sq mi.

RECORDS AVAILABLE.--October 1962 to September 1967.

GAGE.--Digital water-stage recorder. Datum of gage is 1,490.07 ft above mean sea level, datum of 1929, supplementary adjustment of 1960. Prior to July 27, 1967, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--5 years, 19.2 cfs (13,900 acre-ft per year).

EXTREMES.--Maximum discharge during year, 1,210 cfs Dec. 2 (gage height, 8.44 ft); no flow for many days.
1962-67: Maximum discharge, 3,080 cfs Dec. 22, 1964 (gage height, 12.15 ft); no flow at times in each year.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	.09	.20	16	3.8	86	5.1	52	17	5.6	.93	.20	0
2	.09	.20	349	3.6	54	4.8	36	16	22	.85	.17	0
3	.09	.20	107	3.6	39	4.8	30	14	8.4	.71	.11	0
4	.09	.20	564	3.6	30	4.6	25	14	5.3	.64	.09	0
5	.09	.20	303	3.4	24	4.1	25	13	4.8	.64	.09	0
6	.09	1.2	155	3.2	21	3.8	56	12	4.8	.58	.09	0
7	.09	.23	80	3.2	18	3.8	41	11	4.3	.52	.11	0
8	.09	.13	45	3.2	16	3.8	33	10	4.1	.58	.09	0
9	.11	.13	33	3.2	15	3.8	27	10	4.1	.52	.07	0
10	.09	.13	31	3.0	13	53	45	12	3.8	.52	.07	.01
11	.11	.15	23	3.0	12	85	39	10	3.6	.52	.07	.01
12	.13	1.0	19	3.2	11	151	31	9.5	3.6	.47	.06	.01
13	.13	1.8	18	3.0	10	106	26	8.0	3.4	.42	.05	0
14	.15	4.8	16	2.8	9.5	79	24	8.2	3.0	.34	.04	0
15	.15	30	14	2.8	9.5	147	36	7.3	2.8	.34	.03	0
16	.15	18	12	2.8	9.1	368	30	7.0	2.7	.30	.02	0
17	.13	3.8	11	2.8	8.4	105	84	6.6	2.5	.30	.02	.01
18	.13	3.0	10	2.7	8.0	59	86	5.9	2.3	.26	.01	.03
19	.13	165	8.7	2.7	7.7	39	108	5.6	2.3	.26	0	.02
20	.13	108	8.0	154	7.3	34	77	5.3	2.2	.26	0	0
21	.15	44	7.3	625	6.6	26	64	5.1	1.9	.26	0	0
22	.15	25	6.6	136	6.6	24	50	4.6	1.9	.23	.01	0
23	.17	7.7	6.6	62	6.3	30	64	4.3	1.9	.20	0	.01
24	.17	3.6	6.3	179	6.6	22	47	4.1	1.6	.20	0	0
25	.17	2.5	5.6	107	8.4	20	38	4.1	1.4	.17	.01	0
26	.17	2.0	5.1	100	5.9	18	33	3.8	1.4	.15	.03	0
27	.20	1.8	4.8	105	5.6	16	31	3.8	1.3	.15	.01	0
28	.20	20	4.3	195	5.1	17	26	4.1	1.2	.23	.01	0
29	.20	26	4.3	342	-----	15	21	4.1	1.2	.26	.01	0
30	.20	7.7	4.3	216	-----	73	19	4.1	1.0	.23	.01	.01
31	.20	-----	3.8	192	-----	80	-----	4.1	-----	.20	0	-----
Total	4.24	478.67	1,881.7	2,472.6	459.6	1,605.6	1,304	248.6	110.4	12.24	1.48	.11
Mean	.14	16.0	60.7	79.8	16.4	51.8	43.5	8.02	3.68	.39	.05	.004
Max	.20	165	564	625	86	368	108	17	22	.93	.20	.03
Min	.09	.13	3.8	2.7	5.1	3.8	19	3.8	1.0	.15	0	0
Ac-ft	8.4	949	3,730	4,900	912	3,180	2,590	493	219	24	2.9	.2

Cal yr 1966: Total 6,519.11 Mean 17.9 Max 855 Min 0 Ac-ft 12,930
Wtr yr 1967: Total 9,579.24 Mean 23.5 Max 625 Min 0 Ac-ft 17,020

Peak discharge (base, 500 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-19	1900	7.28	808	1-21	0500	8.12	1,170
12- 2	1400	8.44	1,210	1-29	0400	6.72	682
12- 4	2000	7.90	1,090	3-15	2400	6.85	728

11-4490.1. HIGHLAND CREEK BELOW HIGHLAND CREEK DAM, NEAR KELSEYVILLE, CALIF.

LOCATION.--Lat 38°56'54", long 122°54'03", in NE¼ sec.30, T.13 N., R.9 W., on left bank 500 ft downstream from Highland Creek Dam and 4.0 miles southwest of Kelseyville.

DRAINAGE AREA.--14.2 sq mi.

RECORDS AVAILABLE.--December 1965 to September 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is 1,416.52 ft above mean sea level, datum of 1929, supplementary adjustment of 1960.

EXTREMES.--Maximum discharge during year, 540 cfs Dec. 4 (gage height, 4.94 ft); no flow for many days.
1965-67: Maximum discharge, 565 cfs Jan. 4, 1966 (gage height, 4.99 ft); no flow for many days in each year.

REMARKS.--Records good. Flow regulated by Highland Creek Dam (capacity, 3,500 acre-ft). No diversion above station. Records of water temperatures and suspended-sediment loads for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	.47	.96	24	4.1	120	5.9	68	21		.05	.42	.52
2	.90	1.1	281	3.4	63	5.9	50	19		.42	.42	.52
3	1.1	1.1	225	3.2	46	5.9	41	18		.43	.41	.52
4	1.2	1.2	345	3.2	36	5.9	36	17		.43	.41	.52
5	1.4	1.2	525	3.2	29	5.9	36	17		.44	.41	.52
6	1.6	1.9	310	3.4	24	5.9	70	16		.44	.41	.52
7	1.9	1.9	86	3.4	21	5.6	56	15		.44	.41	1.5
8	2.1	2.1	55	3.0	19	5.9	47	14		.45	.40	1.6
9	1.9	2.1	40	2.5	18	5.9	40	62		.45	.40	1.6
10	1.0	2.1	32	2.5	16	34	54	32		.45	.40	1.6
11	.60	2.1	27	3.0	15	129	59	.06		.46	.40	1.6
12	.53	2.1	22	3.2	14	174	46	0		.47	.40	1.6
13	.60	2.1	20	2.5	14	150	39	0		.47	.39	1.6
14	.57	2.1	18	2.3	12	100	36	0		.50	.39	1.6
15	.53	2.1	16	2.3	11	109	44	0		.46	.39	1.6
16	.60	2.1	14	2.3	11	510	46	0		.45	.39	1.6
17	.96	2.1	13	2.3	10	198	98	0		.45	.39	1.6
18	.96	1.9	11	2.1	9.5	75	125	0		.45	.38	1.6
19	.96	24	9.5	1.9	9.5	49	154	0		.45	.38	1.6
20	.96	166	9.0	8.1	8.5	41	112	0		.45	.38	1.6
21	.90	68	7.0	490	6.6	33	88	0		.44	.38	1.6
22	.84	49	7.0	470	6.6	28	66	0		.44	.52	1.6
23	.96	21	7.0	94	6.6	36	77	0		.44	.52	1.6
24	.96	14	6.6	177	7.0	28	62	0		.44	.52	1.6
25	1.0	7.5	6.3	149	11	24	48	0		.44	.52	1.6
26	1.0	5.6	5.9	94	8.5	22	40	0		.43	.52	1.6
27	.96	4.5	4.8	118	6.6	21	36	0		.43	.52	1.6
28	.90	14	4.8	186	6.3	21	32	0		.43	.52	1.6
29	.96	41	4.8	407	-----	21	28	0		.43	.52	1.6
30	1.0	21	4.8	261	-----	80	24	0		.42	.52	1.6
31	1.0	-----	4.8	303	-----	110	-----	0	-----	.42	.52	-----
Total	31.32	467.86	2,146.3	2,883.8	565.7	2,045.8	1,758	231.06	0	13.37	13.56	41.42
Mean	1.01	15.6	69.2	93.0	20.2	66.0	58.6	7.45	0	.43	.44	1.38
Max	2.1	166	525	490	120	510	154	62	0	.50	.52	1.6
Min	.47	.96	4.8	1.9	6.3	5.6	24	0	0	.05	.38	.52
Ac-ft	62	928	4,260	5,720	1,120	4,060	3,490	458	0	27	27	82

Cal yr 1966: Total 6,712.68 Mean 18.4 Max 550 Min 0 Ac-ft 13,310
Wtr yr 1967: Total 10,198.19 Mean 27.9 Max 525 Min 0 Ac-ft 20,230

Note.--No gage-height record July 15 to Sept. 30.

SACRAMENTO RIVER BASIN

11-4493.5. BURNS VALLEY CREEK NEAR CLEARLAKE HIGHLANDS, CALIF.

LOCATION.--Lat 38°58'33", long 122°36'42", in SE¼ sec.15, T.13 N., R.7 W., on right bank 500 ft downstream from unnamed tributary and 2.7 miles northeast of Clearlake Highlands.

DRAINAGE AREA.--4.37 sq mi.

RECORDS AVAILABLE.--January 1963 to September 1967.

GAGE.--Digital water-stage recorder. Datum of gage is 1,390.10 ft above mean sea level, datum of 1929, supplementary adjustment of 1960. Prior to Nov. 8, 1965, graphic water-stage recorder at same site and datum.

EXTREMES.--Maximum discharge during year, 282 cfs Jan. 21 (gage height, 4.41 ft); no flow for several months. 1963-67: Maximum discharge, 402 cfs Jan. 5, 1965 (gage height, 5.11 ft); no flow for several months in each year.

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

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0	0	.10	0	7.9	0	2.3	.90	.03	0	0	0
2	0	0	22	0	5.2	0	1.2	.72	.15	0	0	0
3	0	0	6.5	0	3.5	0	.86	.58	.09	0	0	0
4	0	0	34	0	2.6	0	.76	.49	.04	0	0	0
5	0	0	29	0	1.9	0	.66	.44	.02	0	0	0
6	0	0	17	0	1.5	0	7.1	.37	.02	0	0	0
7	0	0	7.7	0	1.2	0	4.7	.31	.01	0	0	0
8	0	0	4.7	0	1.0	0	2.6	.25	.01	0	0	0
9	0	0	3.3	0	.80	0	1.6	.22	.01	0	0	0
10	0	0	5.7	0	.70	.20	3.5	.22	.01	0	0	0
11	0	0	2.9	0	.50	.20	2.8	.21	0	0	0	0
12	0	0	2.0	0	.40	6.3	1.6	.19	0	0	0	0
13	0	0	1.9	0	.40	9.2	1.1	.17	0	0	0	0
14	0	0	1.3	0	.20	5.0	.86	.16	0	0	0	0
15	0	.10	.80	0	.20	20	1.6	.16	0	0	0	0
16	0	0	.30	0	.20	52	1.1	.15	0	0	0	0
17	0	0	.10	0	.20	9.6	4.3	.14	0	0	0	0
18	0	0	.10	0	.20	5.5	6.3	.13	0	0	0	0
19	0	.30	.10	0	.10	3.5	4.3	.13	0	0	0	0
20	0	.10	.10	6.3	.10	2.8	2.3	.12	0	0	0	0
21	0	.10	.10	84	.10	2.1	7.7	.11	0	0	0	0
22	0	.50	.10	15	.10	1.7	4.5	.11	0	0	0	0
23	0	0	.10	6.0	.10	1.6	11	.09	0	0	0	0
24	0	0	0	57	.10	1.0	16	.09	0	0	0	0
25	0	0	0	15	.10	.80	5.2	.08	0	0	0	0
26	0	0	0	35	.10	.60	3.3	.07	0	0	0	0
27	0	0	0	18	.10	.50	2.4	.06	0	0	0	0
28	0	.50	0	28	.10	.30	2.1	.05	0	0	0	0
29	0	1.3	0	47	-----	.19	1.7	.05	0	0	0	0
30	0	.20	0	28	-----	2.4	1.2	.04	0	0	0	0
31	0	-----	0	16	-----	7.7	-----	.03	-----	0	0	-----
TOTAL	0	3.10	139.90	355.3	29.60	133.19	106.64	6.84	0.39	0	0	0
MEAN	0	.10	4.51	11.5	1.06	4.30	3.55	.22	.013	0	0	0
MAX	0	1.3	34	84	7.9	52	16	.90	.15	0	0	0
MIN	0	0	0	0	.10	0	.66	.03	0	0	0	0
AC-FT	0	6.2	277	705	59	264	212	14	.8	0	0	0

CAL YR 1966: TOTAL 391.60

MEAN 1.07

MAX 37

MIN 0

AC-FT 777

WAT YR 1967: TOTAL 774.96

MEAN 2.12

MAX 84

MIN 0

AC-FT 1,540

Peak discharge (base, 80 cfs)

Note.--No gage-height record June 1 to July 26.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 2	1515	3.62	173	1-24	1215	3.44	151
12- 4	2100	3.06	108	1-29	0245	3.30	134
1-21	1045	4.41	282	3-16	0100	4.03	226

SACRAMENTO RIVER BASIN

981

11-4494.6. SEIGLER CREEK AT LOWER LAKE, CALIF.

LOCATION.--Lat 38°54'34", long 122°36'48", in NE 1/4 sec.10, T.12 N., R.7 W., on left bank 400 ft upstream from highway bridge and 0.2 mile southwest of Lower Lake.

DRAINAGE AREA.--12.5 sq mi.

RECORDS AVAILABLE.--October 1965 to September 1967.

GAGE.--Digital water-stage recorder. Datum of gage is 1,364.75 ft above mean sea level, datum of 1929, supplementary adjustment of 1960.

EXTREMES.--Maximum discharge during year, 795 cfs Jan. 21 (gage height, 6.61 ft); no flow for many days.

1965-67: Maximum discharge, 795 cfs Jan. 21, 1967 (gage height, 6.61 ft); no flow for many days in each year.

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

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0	.89	9.2	2.6	48	4.8	32	20	5.0	1.3	.11	0
2	0	.71	230	2.5	37	4.6	23	17	25	1.3	.25	0
3	0	.21	100	2.5	32	4.6	18	16	12	1.2	.29	0
4	0	.10	370	2.5	27	4.5	15	14	6.4	1.1	.20	0
5	0	.12	150	2.4	23	4.3	19	14	5.3	1.1	.12	0
6	0	.27	57	2.3	19	4.1	66	13	5.0	1.0	.15	.05
7	0	.40	26	2.3	17	4.0	33	12	4.5	.67	.10	.15
8	0	.35	17	2.3	15	3.9	24	11	4.0	.67	.14	.09
9	0	.27	14	2.3	14	3.8	21	10	3.7	.98	.15	.03
10	.02	.27	19	2.2	12	23	34	11	3.4	1.1	.22	0
11	0	.27	12	2.2	11	45	29	10	3.2	1.1	.09	.12
12	.02	.35	9.9	2.3	11	74	21	9.8	3.0	1.1	.18	.08
13	.16	.35	9.3	2.2	10	58	18	9.1	2.9	.64	.15	.10
14	.16	.56	8.0	2.2	9.4	36	18	8.3	2.7	.55	.10	.09
15	.21	20	6.8	2.0	8.9	107	21	7.8	2.6	.61	.06	.07
16	.21	16	5.9	2.0	8.6	275	18	7.4	2.4	.61	.05	.02
17	.27	3.0	5.2	1.9	8.4	68	57	7.0	2.1	.47	.06	.03
18	.21	1.9	4.7	1.9	7.8	45	56	6.2	2.1	.47	.06	.20
19	.16	156	4.4	1.9	7.3	34	44	5.8	2.2	.43	0	.20
20	.16	90	4.3	55	6.6	32	32	5.8	2.2	.51	0	.05
21	.16	47	4.0	435	6.2	29	55	5.3	1.6	.55	0	0
22	.20	24	3.8	76	6.0	24	42	4.9	1.9	.43	0	0
23	.16	10	3.5	34	5.5	25	77	4.7	1.7	.39	0	.10
24	.16	4.0	3.4	128	6.0	19	57	4.2	1.7	.48	0	.12
25	.12	1.8	3.2	57	7.6	17	39	4.0	1.9	.61	0	.14
26	.16	1.5	3.0	76	6.0	14	33	3.5	1.6	.47	.06	.11
27	.16	1.3	2.8	60	5.3	14	31	3.3	1.7	.40	.17	.09
28	.21	16	2.7	99	5.0	14	28	3.3	1.6	.40	.16	.11
29	.40	19	2.8	225	-----	13	24	3.7	1.4	.40	.18	.12
30	.47	5.4	2.8	147	-----	28	22	3.3	1.4	.22	.06	.16
31	.75	-----	2.8	84	-----	51	-----	3.3	-----	.15	0	-----
TOTAL	4.53	422.02	1,097.5	1,518.5	380.6	1,083.6	1,007	258.7	116.2	21.41	3.11	2.23
MEAN	.15	14.1	35.4	49.0	13.6	35.0	33.6	8.35	3.87	.69	.10	.074
MAX	.75	156	370	435	48	275	77	20	25	1.3	.29	.20
MIN	0	.10	2.7	1.9	5.0	3.8	15	3.3	1.4	.15	0	0
AC-FT	9.0	837	2,180	3,010	755	2,150	2,000	513	230	42	6.2	4.4

CAL YR 1966: TOTAL 3,665.25

MEAN 10.0

MAX 370

MIN 0

AC-FT 7,270

WAT YR 1967: TOTAL 5,915.40

MEAN 16.2

MAX 435

MIN 0

AC-FT 11,730

Peak discharge (base, 500 cfs, revised)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-2	-	6.42	704	1-21	1000	6.61	795
12-4	-	-	660	3-15	2345	6.51	745

SACRAMENTO RIVER BASIN

11-4495. KELSEY CREEK NEAR KELSEYVILLE, CALIF.

LOCATION.--Lat 38°55'45", long 122°50'35", in SE $\frac{1}{4}$ sec.34, T.13 N., R.9 W., on left bank 1.6 miles downstream from Widow Creek and 3.5 miles south of Kelseyville.

DRAINAGE AREA.--36.6 sq mi.

RECORDS AVAILABLE.--October 1946 to September 1967.

GAGE.--Digital water-stage recorder. Datum of gage is 1,475.44 ft above mean sea level, datum of 1929, supplementary adjustment of 1960. Prior to July 16, 1955, graphic water-stage recorder at site 600 ft upstream at different datum. July 16, 1955, to Apr. 8, 1965, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--21 years, 72.1 cfs (52,200 acre-ft per year); median of yearly mean discharges, 61 cfs (44,200 acre-ft per year).

EXTREMES.--Maximum discharge during year, 7,240 cfs Jan. 21 (gage height, 12.62 ft); minimum daily, 3.3 cfs Oct. 12.

1946-67: Maximum discharge, 8,800 cfs Dec. 21, 1955 (gage height, 12.80 ft); maximum gage height, 13.48 ft Jan. 5, 1965; minimum discharge, 0.5 cfs Sept. 1, 1950, but may have been less during August 1950.

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

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	3.7	3.9	95	29	391	37	141	91	34	17	9.9	5.6
2	3.4	4.1	1,340	28	274	36	120	85	83	16	9.6	5.5
3	4.2	4.7	465	27	217	36	109	81	57	16	9.6	5.1
4	4.0	4.7	1,900	26	178	35	102	77	43	16	8.9	5.3
5	4.2	5.1	1,170	26	153	34	113	73	38	16	8.8	6.0
6	4.1	9.5	556	24	135	33	275	70	37	15	8.8	5.8
7	4.3	9.5	299	24	120	32	175	67	36	15	8.9	5.9
8	4.2	6.7	207	23	108	31	143	64	34	15	8.8	5.9
9	4.1	6.5	160	23	99	31	122	64	31	15	8.7	5.9
10	3.7	6.2	149	22	90	220	178	67	30	15	8.3	5.9
11	3.7	6.5	120	22	83	387	156	61	29	15	7.9	6.4
12	3.3	7.8	102	22	77	363	128	59	28	14	7.4	6.2
13	3.4	9.1	94	22	73	279	115	55	27	13	7.0	5.9
14	3.8	16	84	21	69	227	110	53	27	12	7.2	5.6
15	4.0	95	75	21	65	519	109	51	26	12	6.4	5.5
16	4.4	167	68	20	62	1,840	98	49	24	12	6.3	5.5
17	4.4	33	62	20	58	530	308	48	24	12	6.4	5.9
18	4.3	23	57	20	55	297	258	46	23	12	6.0	7.1
19	4.0	840	54	20	52	219	204	45	23	12	5.7	6.7
20	4.3	1,030	51	730	49	201	166	43	22	12	5.8	5.8
21	4.5	429	48	3,630	47	168	190	41	21	12	6.0	5.7
22	4.7	226	45	739	45	149	163	39	21	11	6.1	5.8
23	4.7	118	44	315	43	178	184	38	21	11	6.3	6.0
24	4.7	79	41	525	42	137	164	36	20	11	5.7	5.3
25	4.6	61	39	317	47	122	144	36	20	11	6.3	5.3
26	4.5	52	36	372	41	111	130	35	19	11	6.8	4.9
27	4.5	46	35	363	39	100	128	34	19	11	6.2	4.7
28	4.7	69	33	674	38	98	116	34	18	11	5.8	4.9
29	4.5	82	32	1,500	-----	92	106	34	18	10	5.9	5.7
30	4.6	58	32	938	-----	169	97	33	17	10	5.7	5.8
31	4.4	-----	30	810	-----	180	-----	33	-----	10	5.7	-----
TOTAL	129.9	3,508.3	7,523	11,353	2,750	6,891	4,552	1,642	870	401	222.9	171.6
MEAN	4.19	117	243	366	98.2	222	152	53.0	29.0	12.9	7.19	5.72
MAX	4.7	1,030	1,900	3,630	391	1,840	308	91	83	17	9.9	7.1
MIN	3.3	3.9	30	20	38	31	97	33	17	10	5.7	4.7
AC-FT	258	6,960	14,920	22,520	5,450	13,670	9,030	3,260	1,730	795	442	340

CAL YR 1966: TOTAL 27,847.5 MEAN 76.3 MAX 2,630 MIN 2.3 AC-FT 55,230
WAT YR 1967: TOTAL 40,014.7 MEAN 110 MAX 3,630 MIN 3.3 AC-FT 79,370

Peak discharge (base, 1,600 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-19	2015	10.45	3,960	1-21	1100	12.62	7,240
12- 2	1515	10.49	4,010	1-29	0400	9.90	3,280
12- 4	1600	10.51	4,030	3-16	0045	10.04	3,450

11-4500. CLEAR LAKE AT LAKEPORT, CALIF.

LOCATION.--Lat 39°02'40", long 122°54'45", in SE¼ sec.24, T.14 N., R.10 W., on private pier at foot of Fourth Street in Lakeport.

DRAINAGE AREA.--528 sq mi.

RECORDS AVAILABLE.--1874-1900 (incomplete), January 1913 to September 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is 1,318.59 ft above mean sea level, datum of 1929. Prior to July 8, 1947, staff gage and July 8, 1947, to Mar. 17, 1949, graphic water-stage recorder, at municipal wharf at foot of Third Street in Lakeport at same datum.

EXTREMES.--Maximum daily mean gage height during year, 7.93 ft Mar. 17; minimum, 1.15 ft Nov. 5.

1913-67: Maximum gage height observed, 11.12 ft Jan. 28, 1914; minimum observed, -3.50 ft Sept. 24-27, 1920.

REMARKS.--This natural lake is regulated by a concrete overflow 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 from which it is diverted for irrigation (see sta. no. 4510). Records of chemical analyses for the water year 1967 are published in Part 2 of this report.

COOPERATION.--Daily mean gage-height record furnished by Clear Lake Water Co.

MEAN GAGE HEIGHT IN FEET, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day,	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.57	1.17	1.98	4.16	7.56	7.32	7.68	7.20	7.28	6.79	5.45	4.28
2	1.56	1.17	2.30	4.19	7.54	7.32	7.65	7.23	7.32	6.73	5.41	4.25
3	1.53	1.16	2.46	4.19	7.49	7.33	7.63	7.25	7.32	6.69	5.37	4.19
4	1.51	1.16	2.85	4.19	7.41	7.33	7.59	7.28	7.33	6.64	5.31	4.15
5	1.49	1.15	3.28	4.20	7.32	7.34	7.60	7.31	7.32	6.59	5.26	4.12
6	1.47	1.20	3.50	4.20	7.25	7.35	7.62	7.32	7.32	6.54	5.21	4.08
7	1.46	1.19	3.62	4.20	7.16	7.35	7.55	7.34	7.32	6.50	5.17	4.03
8	1.45	1.18	3.71	4.21	7.17	7.36	7.48	7.33	7.32	6.46	5.14	4.00
9	1.44	1.18	3.81	4.21	7.19	7.36	7.40	7.34	7.32	6.42	5.10	3.96
10	1.42	1.18	3.86	4.21	7.20	7.40	7.38	7.36	7.31	6.38	5.06	3.91
11	1.39	1.19	3.89	4.21	7.21	7.52	7.32	7.38	7.29	6.35	5.03	3.90
12	1.36	1.19	3.94	4.22	7.21	7.66	7.37	7.39	7.29	6.31	4.99	3.88
13	1.34	1.19	3.98	4.22	7.20	7.73	7.42	7.40	7.28	6.26	4.95	3.86
14	1.32	1.21	4.00	4.22	7.21	7.67	7.47	7.41	7.27	6.23	4.93	3.83
15	1.30	1.26	4.03	4.23	7.22	7.70	7.54	7.43	7.27	6.19	4.89	3.81
16	1.29	1.30	4.05	4.23	7.22	7.89	7.58	7.44	7.26	6.15	4.85	3.77
17	1.29	1.31	4.07	4.24	7.23	7.93	7.62	7.44	7.24	6.08	4.81	3.73
18	1.28	1.32	4.09	4.24	7.24	7.90	7.61	7.44	7.23	6.03	4.77	3.72
19	1.26	1.50	4.10	4.25	7.25	7.84	7.59	7.43	7.19	5.97	4.73	3.71
20	1.24	1.70	4.11	5.00	7.25	7.80	7.59	7.43	7.16	5.93	4.69	3.68
21	1.23	1.74	4.12	5.38	7.26	7.73	7.53	7.42	7.13	5.88	4.66	3.65
22	1.22	1.80	4.13	5.71	7.27	7.64	7.49	7.42	7.09	5.84	4.63	3.64
23	1.21	1.81	4.13	5.98	7.27	7.56	7.47	7.39	7.06	5.80	4.59	3.62
24	1.21	1.82	4.14	6.13	7.29	7.48	7.42	7.37	7.04	5.76	4.56	3.61
25	1.20	1.82	4.14	6.30	7.30	7.51	7.39	7.35	7.00	5.73	4.53	3.59
26	1.20	1.84	4.14	6.60	7.31	7.53	7.33	7.32	6.98	5.69	4.50	3.57
27	1.19	1.85	4.15	6.76	7.32	7.55	7.31	7.28	6.95	5.66	4.47	3.55
28	1.19	1.91	4.15	7.00	7.32	7.56	7.29	7.26	6.91	5.62	4.43	3.53
29	1.19	1.92	4.15	7.19		7.56	7.24	7.23	6.88	5.57	4.39	3.49
30	1.18	1.94	4.16	7.43	- - - -	7.69	7.21	7.19	6.83	5.53	4.36	3.45
31	1.18	- - - -	4.16	7.53	- - - -	7.70	- - - -	7.20	- - - -	5.49	4.31	- - - -

SACRAMENTO RIVER BASIN

11-4510. CACHE CREEK NEAR LOWER LAKE, CALIF.

LOCATION.--Lat 38°55'27", long 122°33'53", in sec.6, T.12 N., R.6 W., on left bank 500 ft downstream from Clear Lake Dam, 1.9 miles downstream from Copsey Creek, and 2.5 miles northeast of Lower Lake.

DRAINAGE AREA.--528 sq mi.

RECORDS AVAILABLE.--May 1944 to September 1967.

GAGE.--Digital water-stage recorder. Datum of gage is 1,280.34 ft above mean sea level, datum of 1929, supplementary adjustment of 1960. Prior to June 10, 1964, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--23 years, 314 cfs (227,300 acre-ft per year), unadjusted.

EXTREMES.--Maximum discharge during year, 5,800 cfs Mar. 13 (gage height, 8.45 ft); minimum daily, 2.2 cfs Nov. 27, 30.

1944-67: Maximum discharge, 8,000 cfs Feb. 24, 1958 (gage height, 9.40 ft); minimum recorded, 0.2 cfs Mar. 15-23, 1950.

REMARKS.--Records good. Flow completely regulated by Clear Lake (see sta. no. 4500). Records of chemical analyses for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	107	35	2.3	2.9	2,660	20	1,490	660	168	427	396	308
2	84	30	3.5	2.9	2,600	20	1,480	9.3	85	421	381	283
3	74	23	2.5	2.8	2,560	20	1,480	9.0	43	412	390	283
4	73	13	3.7	2.8	2,540	20	1,480	8.7	41	406	415	279
5	73	2.8	3.4	2.8	2,540	19	1,480	7.9	9.6	396	397	271
6	73	2.8	2.9	2.8	2,440	19	2,010	7.6	5.5	396	379	286
7	73	2.7	2.8	2.8	1,790	19	2,580	7.1	5.7	408	370	274
8	72	2.7	2.8	2.8	100	19	2,530	6.6	18	411	360	243
9	72	2.5	2.7	2.8	100	19	2,490	6.4	42	393	360	209
10	72	2.4	2.8	2.8	100	21	2,480	6.4	56	369	337	187
11	72	2.4	2.8	2.8	100	20	1,240	6.1	67	356	315	187
12	67	2.5	2.8	2.8	100	21	12	6.1	82	356	315	185
13	59	2.6	2.8	2.8	100	1,380	11	6.1	95	366	315	184
14	53	2.6	2.8	2.8	100	2,660	11	5.9	95	376	326	182
15	47	2.7	2.8	2.8	100	2,780	11	5.9	96	390	326	182
16	46	2.6	2.8	2.8	100	3,560	11	5.9	118	399	308	182
17	41	2.6	2.8	2.8	71	2,880	1,500	5.7	180	392	308	183
18	35	2.5	2.7	2.8	25	2,850	2,710	5.5	240	416	345	177
19	35	7.9	2.6	2.8	15	2,760	2,680	109	277	451	379	171
20	36	4.0	2.7	2.8	20	2,720	2,600	202	298	443	382	161
21	34	2.5	2.7	2.8	20	2,680	2,640	218	301	420	382	153
22	34	2.5	2.8	2.8	20	2,660	2,650	250	299	385	387	168
23	33	2.3	2.8	2.8	20	2,630	2,700	290	299	354	384	173
24	35	2.4	2.8	2.8	20	1,450	2,700	313	316	365	368	158
25	36	2.3	2.8	2.8	20	128	2,620	313	355	391	322	146
26	36	2.3	2.8	532	20	176	2,070	313	402	398	278	145
27	36	2.2	2.8	2,350	20	176	1,580	298	414	396	287	146
28	35	2.4	2.9	2,550	20	176	1,490	254	411	396	312	145
29	35	2.3	2.8	2,720	-----	176	1,490	230	421	395	311	135
30	35	2.2	2.9	2,920	-----	512	1,480	230	426	398	309	109
31	35	-----	2.8	2,720	-----	1,330	-----	224	-----	398	314	-----
TOTAL	1,648	172.7	87.9	13,862.2	18,321	33,921	51,706	4,020.2	5,665.8	12,280	10,758	5,895
MEAN	53.2	5.76	2.84	447	654	1,094	1,724	130	189	396	347	197
MAX	107	35	3.7	2,920	2,660	3,560	2,710	660	426	451	415	308
MIN	33	2.2	2.3	2.8	15	19	11	5.5	5.5	354	278	109
AC-FT	3,270	343	174	27,500	36,340	67,280	102,600	7,970	11,240	24,360	21,340	11,690

CAL YR 1966: TOTAL 107,496.1 MEAN 295 MAX 2,980 MIN 1.8 AC-FT 213,200
WAT YR 1967: TOTAL 158,337.8 MEAN 434 MAX 3,560 MIN 2.2 AC-FT 314,100

Note.--Jan. 3 to Feb. 28 computed from twice-daily staff gage readings furnished by Clear Lake Water Company.

11-4515. NORTH FORK CACHE CREEK NEAR LOWER LAKE, CALIF.

LOCATION.--Lat 39°01'10", long 122°34'00", in NE $\frac{1}{4}$ sec.31, T.14 N., R.6 W. (unsurveyed), on right bank 500 ft upstream from Sweet Hollow Creek, 5 miles upstream from mouth, and 7 miles northeast of Lower Lake.

DRAINAGE AREA.--197 sq mi.

RECORDS AVAILABLE.--July 1930 to September 1967.

GAGE.--Digital water-stage recorder. Datum of gage is 1,035.60 ft above mean sea level, datum of 1929 supplementary adjustment of 1960. Prior to June 15, 1939, graphic water-stage recorder at datum 1.00 ft higher. June 15, 1939, to Apr. 7, 1965, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--37 years, 189 cfs (136,800 acre-ft per year); median of yearly mean discharges, 140 cfs (101,000 acre-ft per year).

EXTREMES.--Maximum discharge during year, 10,800 cfs Jan. 21 (gage height, 9.83 ft); minimum daily, 1.2 cfs Oct. 11.

1930-67: Maximum discharge, 20,300 cfs Dec. 11, 1937 (gage height, 13.98 ft, present datum, from flood-marks), from rating curve extended above 7,600 cfs on basis of slope-area measurement at gage height 13.9 ft for peak of Feb. 28, 1940; no flow at times in 1930-36, 1949-50, 1956-57.

REMARKS.--Records good. No regulation; several small diversions above station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1.4	2.1	175	85	2,280	119	364	388	102	34	7.7	3.2
2	1.6	4.1	1,870	82	1,400	114	336	360	210	32	7.3	3.2
3	1.3	2.1	1,250	80	979	112	328	344	198	30	7.3	3.2
4	1.3	1.9	2,440	77	740	108	324	328	170	31	7.3	3.5
5	1.3	1.4	4,270	72	595	98	328	310	150	31	6.9	3.5
6	1.3	3.0	1,820	70	520	93	505	289	139	30	6.9	3.0
7	1.6	2.6	1,160	67	460	87	560	273	129	28	6.5	3.0
8	1.6	1.9	770	66	412	84	485	261	117	27	6.1	3.2
9	1.4	1.6	555	63	372	82	440	252	106	27	6.1	3.0
10	1.4	1.6	590	63	332	95	452	255	98	27	5.7	3.0
11	1.2	1.6	495	61	303	267	460	231	93	23	5.7	2.8
12	1.6	2.1	416	60	279	310	412	218	93	22	5.3	2.9
13	1.4	2.1	376	58	264	344	384	203	93	20	5.3	2.9
14	1.9	2.1	352	57	249	289	376	188	82	18	4.9	2.2
15	1.9	3.0	289	54	231	292	376	175	75	17	4.1	2.1
16	1.9	99	252	52	220	1,820	360	170	72	16	4.1	2.8
17	1.9	46	225	51	210	1,000	464	163	66	15	3.5	3.0
18	1.9	23	205	50	198	675	595	153	63	13	3.7	3.3
19	2.1	255	190	50	188	545	525	136	60	13	3.7	2.5
20	2.1	1,340	180	1,310	173	550	476	117	59	13	3.5	2.8
21	2.1	650	165	8,280	165	535	550	121	54	12	3.2	2.3
22	2.1	540	160	3,150	160	464	510	143	54	11	3.0	2.9
23	2.1	237	141	1,320	153	480	585	121	51	11	3.2	3.0
24	2.1	153	134	1,600	150	424	692	114	49	11	3.0	2.9
25	2.1	110	125	1,140	155	380	640	106	47	10	3.2	2.9
26	2.1	89	117	2,450	139	344	590	102	45	9.0	3.2	2.7
27	2.1	77	108	2,640	132	310	565	98	42	9.6	3.0	2.6
28	2.1	101	102	3,510	125	294	510	97	41	9.0	3.2	2.7
29	1.9	220	98	5,190	-----	270	464	95	38	8.3	3.0	2.8
30	1.9	170	95	4,040	-----	320	420	93	37	9.0	3.0	2.7
31	2.1	-----	89	3,880	-----	376	-----	91	-----	8.3	3.2	-----
TOTAL	54.8	4,143.2	19,214	39,728	11,584	11,281	14,076	5,995	2,633	575.2	145.8	86.6
MEAN	1.77	138	620	1,282	414	364	469	193	87.8	18.6	4.70	2.89
MAX	2.1	1,340	4,270	8,280	2,280	1,820	692	388	210	34	7.7	3.5
MIN	1.2	1.4	89	50	125	82	324	91	37	8.3	3.0	2.1
AC-FT	109	8,220	38,110	78,800	22,980	22,380	27,920	11,890	5,220	1,140	289	172

CAL YR 1966: TOTAL 73,935.4 MEAN 203 MAX 6,860 MIN 1.0 AC-FT 146,600
WAT YR 1967: TOTAL 109,516.6 MEAN 300 MAX 8,280 MIN 1.2 AC-FT 217,200

Peak discharge (base, 3,500 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 2	1800	8.16	6,290	1-21	1045	9.83	10,800
12- 5	0100	8.90	8,230	1-29	0715	8.62	7,470

SACRAMENTO RIVER BASIN

11-4517.2. BEAR CREEK NEAR RUMSEY, CALIF.

LOCATION.--Lat 39°56'35", long 122°20'40", in NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.30, T.13 N., R.4 W., on left bank 0.3 mile downstream from Brophy Canyon, 1.4 miles upstream from mouth, and 7.3 miles northwest of Rumsey.

DRAINAGE AREA.--100 sq mi.

RECORDS AVAILABLE.--October 1958 to September 1967.

GAGE.--Digital water-stage recorder. Altitude of gage is 750 ft (from topographic map). Prior to Jan. 17, 1966, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--9 years, 35.7 cfs (25,850 acre-ft per year).

EXTREMES.--Maximum discharge during year, 6,950 cfs Jan. 21 (gage height, 10.50 ft); minimum daily, 0.70 cfs Sept. 4-6.

1958-67: Maximum discharge, 9,720 cfs Jan. 5, 1965 (gage height, 11.93 ft); no flow July 25, 26, Aug. 20, 1960.

Maximum stage known since 1955, 12.33 ft Feb. 24, 1958 (discharge, 9,350 cfs).

REMARKS.--No regulation or diversion above station. Records of suspended-sediment loads for the water year 1967 are published in Part 2 of this report.

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

REVISIONS(water year).--1963 report: 1962(M).

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.1	1.5	14	17	310	38	78	97	30	7.5	2.1	1.0
2	1.2	1.5	533	16	229	37	60	89	71	6.9	2.1	.90
3	1.3	1.6	261	15	180	37	54	83	114	6.3	2.1	.90
4	1.4	1.6	598	15	153	35	53	78	53	5.9	1.9	.70
5	1.3	1.6	1010	15	132	32	54	74	46	5.6	1.7	.70
6	1.3	2.5	321	13	115	31	151	69	41	5.4	1.8	.70
7	1.3	3.9	123	13	106	30	127	63	37	5.0	1.8	.80
8	1.4	3.1	80	13	97	30	81	60	33	5.5	1.7	.80
9	1.3	2.2	60	13	90	29	65	57	29	5.5	1.7	.80
10	1.3	1.9	86	12	83	37	70	59	27	4.9	1.6	.90
11	1.2	1.8	65	12	74	118	91	54	25	4.7	1.6	.90
12	1.3	1.9	51	12	71	202	67	52	26	4.5	1.5	.90
13	1.3	2.0	47	12	68	164	59	49	35	4.2	1.6	.80
14	1.2	2.1	46	11	62	99	54	46	27	3.8	1.4	.90
15	1.1	3.2	39	11	59	181	63	44	23	3.7	1.4	1.0
16	1.2	6.9	35	10	57	936	65	43	22	3.7	1.3	1.0
17	1.3	5.3	32	9.4	55	162	144	42	20	3.6	1.1	1.0
18	1.3	3.3	30	9.5	53	104	213	39	19	3.4	1.0	1.3
19	1.4	20	28	9.5	50	83	139	37	18	3.3	1.2	1.6
20	1.5	239	27	210	45	79	89	36	17	3.2	1.1	1.2
21	1.5	105	26	4120	44	84	367	35	16	3.2	1.2	1.1
22	1.5	49	24	646	44	72	263	33	14	3.1	1.1	1.2
23	1.5	21	23	186	44	71	286	31	12	3.0	1.0	1.2
24	1.5	9.7	23	962	44	60	459	29	11	3.0	1.0	1.3
25	1.5	6.7	22	370	52	56	246	23	10	2.8	1.0	1.4
26	1.5	5.6	21	913	43	53	164	26	9.7	2.7	1.0	1.3
27	1.5	5.0	19	639	40	50	143	24	9.2	2.6	1.0	1.2
28	1.6	16	18	749	38	50	124	23	8.7	2.6	1.0	1.3
29	1.6	40	18	1640	---	49	115	24	8.2	2.6	.90	1.3
30	1.5	25	19	974	---	104	103	24	8.0	2.6	.90	1.4
31	1.5	---	17	653	---	141	---	24	---	2.2	1.1	---
Total	42.4	589.9	3,716	12,205.4	2,437	3,153	4,046	1,472	819.8	127.0	42.90	31.50
Mean	1.37	19.7	120	394	87.0	102	135	47.5	27.3	4.10	1.38	1.05
Max	1.6	239	1010	4,120	310	936	459	97	114	7.5	2.1	1.6
Min	1.1	1.5	14	9.4	38	29	53	23	3.0	2.2	0.90	0.70
Ac-ft	84	1,170	7,370	24,210	4,330	6,250	8,030	2,920	1,630	252	85	62

Cal yr 1966: Total 14,149.2 Mean 38.6 Max 1,350 Min 0.80 Ac-ft 28,060
Wtr yr 1967: Total 28,682.9 Mean 78.6 Max 4,120 Min 0.70 Ac-ft 56,890

11-4517.6. CACHE CREEK ABOVE RUMSEY, CALIF.

LOCATION.--Lat 38°54'47", long 122°16'14", in SE $\frac{1}{4}$ sec.2, T.12 N., R.4 W., on right bank 0.4 mile downstream from highway bridge and 2.5 miles northwest of Rumsey.

DRAINAGE AREA.--955 sq mi.

RECORDS AVAILABLE.--October 1960 to September 1962, June 1965 to September 1967.

GAGE.--Digital water-stage recorder. Altitude of gage is 480 ft (from topographic map). Prior to Jan. 17, 1966, graphic water-stage recorder at same site and datum.

EXTREMES.--Maximum discharge during year, 30,000 cfs Jan. 21 (gage height, 16.90 ft); minimum daily, 7.2 cfs Nov. 12, 13.

1960-62, 1965-67: Maximum discharge, 30,000 cfs Jan. 21, 1967 (gage height, 16.90 ft); minimum, 3.1 cfs Oct. 29, 1960.

Flood of Jan. 5, 1965, reached a stage of 21.42 ft, from floodmarks (discharge, 59,000 cfs, by slope-area measurement).

REMARKS.--Flow partly regulated by Clear Lake beginning in 1915 (see sta. no. 4500). Records of water temperatures and suspended-sediment loads for the water year 1967 are published in Part 2 of this report.

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

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	146	43	180	124	5,570	241	2,100	1,850	450	625	513	385
2	124	43	2,310	118	4,630	240	2,130	706	519	623	508	369
3	97	39	2,200	113	4,200	236	2,080	658	509	593	481	331
4	94	33	2,510	110	3,900	233	2,060	626	343	590	535	363
5	92	28	5,490	107	3,670	220	2,070	601	329	572	529	320
6	92	18	1,980	101	3,440	209	2,850	561	289	568	491	341
7	92	15	1,500	98	3,260	206	3,630	526	236	568	485	355
8	91	12	1,050	94	1,090	198	3,360	501	207	585	462	308
9	88	10	767	92	899	194	3,270	476	232	565	463	277
10	88	8.5	805	90	842	204	3,290	484	231	536	455	225
11	88	7.9	692	86	784	687	2,770	449	251	506	409	221
12	89	7.2	576	87	749	814	715	421	253	503	409	218
13	76	7.2	509	85	716	1,510	629	390	294	500	407	216
14	70	7.5	497	82	683	3,290	597	364	279	520	408	215
15	62	10	421	80	651	3,230	589	343	270	521	422	213
16	57	28	371	76	635	7,360	595	325	263	547	400	214
17	57	110	333	74	603	4,500	1,660	311	320	532	379	216
18	50	123	300	73	396	4,000	3,870	290	417	540	408	216
19	44	182	275	72	364	3,750	3,710	282	472	594	365	202
20	43	2,000	255	354	337	3,660	3,190	464	505	605	474	200
21	44	903	236	17,800	316	3,650	3,820	456	512	571	475	178
22	42	599	216	4,650	307	3,480	3,700	512	508	544	481	181
23	42	351	202	2,040	297	3,480	3,780	539	501	484	480	200
24	42	196	190	3,340	292	3,040	4,210	570	502	474	472	199
25	43	133	179	2,350	309	788	3,830	558	545	511	435	171
26	45	102	167	3,430	282	764	3,380	546	589	528	367	168
27	45	84	155	5,160	260	717	2,720	533	627	527	344	166
28	45	105	146	6,790	248	696	2,470	496	624	524	382	165
29	44	349	141	11,700	---	674	2,390	444	622	520	392	164
30	43	249	138	8,440	---	875	2,320	436	631	518	379	142
31	44	---	130	7,640	---	2,020	---	430	---	518	390	---
Total	2,119	5,803.3	24,921	75,456	39,730	55,166	77,785	16,148	12,330	16,912	13,700	7,139
Mean	68.4	193	804	2,434	1,419	1,780	2,593	521	411	546	442	238
Max	146	2,000	5,490	17,800	5,570	7,360	4,210	1,850	631	625	535	385
Min	42	7.2	130	72	248	194	589	282	207	474	344	142
Ac-ft	4,200	11,510	49,430	49,700	78,800	109,400	54,300	32,030	24,460	33,540	27,170	14,160

Cal yr 1966: Total 226,210.3 Mean 620 Max 11,600 Min 7.2 Ac-ft 448,700

Wtr yr 1967: Total 347,209.3 Mean 951 Max 17,800 Min 7.2 Ac-ft 88,700

SACRAMENTO RIVER BASIN

11-4520. CACHE CREEK NEAR CAPAY, CALIF.

LOCATION.--Lat 38°43'40", long 122°06'15", in Canada de Capay Grant, on right bank 1.8 miles upstream from Clear Lake Water Co.'s diversion dam, 3.2 miles northwest of Capay, and 5.4 miles northwest of Esparto.

DRAINAGE AREA.--1,044 sq mi.

RECORDS AVAILABLE.--May 1942 to September 1967.

GAGE.--Digital water-stage recorder. Altitude of gage is 225 ft (from river-profile map). Prior to Dec. 2, 1963, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--25 years, 610 cfs (441,600 acre-ft per year).

EXTREMES.--Maximum discharge during year, 28,800 cfs Jan. 21 (gage height, 16.92 ft); minimum daily, 11 cfs Nov. 14.

1942-67: Maximum discharge, 51,600 cfs Feb. 24, 1958 (gage height, 20.90 ft), from rating curve extended above 20,000 cfs; minimum, 2.2 cfs Sept. 11, 12, 16, 1947.

REMARKS.--Records good. Flow partially regulated by Clear Lake beginning in 1915 (see sta. no. 4500). About 3,700 acre-ft diverted annually between stations above Rumsey and near Capay for irrigation of approximately 900 acres, from data furnished by U.S. Soil Conservation Service. Records of chemical analyses for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	119	35	228	161	6,660	269	2,340	2,300	453	565	448	328
2	114	35	960	146	5,230	261	2,260	977	484	565	448	321
3	105	36	3,550	138	4,500	250	2,200	797	585	540	419	292
4	90	34	1,750	127	4,040	241	2,200	736	411	520	448	303
5	84	30	7,400	122	3,690	231	2,250	702	332	507	462	286
6	81	30	3,270	114	3,450	221	2,930	660	355	498	431	289
7	81	26	1,880	106	3,280	210	4,110	615	286	494	415	303
8	81	20	1,250	101	1,770	201	3,870	580	253	502	395	282
9	80	18	924	94	1,070	194	3,740	545	242	498	391	256
10	79	16	876	92	974	193	3,730	540	250	476	399	228
11	79	15	828	88	900	551	3,600	516	253	444	363	212
12	80	13	692	83	846	708	1,110	480	263	427	351	204
13	77	12	620	79	804	1,000	797	444	286	423	347	202
14	71	11	590	75	752	3,120	702	419	289	435	344	200
15	68	12	530	71	714	2,960	675	395	276	440	355	200
16	62	15	480	67	692	7,360	675	379	266	462	344	197
17	57	18	439	65	665	5,360	1,060	363	286	458	325	197
18	56	47	398	60	545	4,390	4,180	340	355	453	328	200
19	51	43	369	58	448	4,020	4,090	321	419	498	375	195
20	45	1,670	345	58	412	3,800	3,800	415	458	530	399	192
21	42	1,110	325	14,800	381	3,770	4,250	453	471	512	403	183
22	40	747	301	8,030	361	3,590	4,290	489	471	494	403	176
23	39	462	281	2,610	341	3,520	4,130	530	462	440	407	179
24	39	297	265	3,440	329	3,450	4,990	555	458	411	403	179
25	36	218	250	2,870	329	1,280	4,440	555	489	431	383	174
26	36	174	235	2,480	317	881	4,010	545	530	453	332	166
27	36	146	221	4,350	293	803	3,160	535	570	458	300	159
28	36	146	204	5,880	277	758	2,800	507	570	453	317	157
29	36	289	193	11,400	-----	736	2,660	453	560	448	328	153
30	35	313	183	9,290	-----	809	2,510	435	565	448	321	151
31	34	-----	174	8,730	-----	2,010	-----	423	-----	448	325	-----
TOTAL	1,969	6,038	30,011	75,785	44,070	57,147	87,559	18,004	11,948	14,731	11,709	6,564
MEAN	63.5	201	968	2,445	1,574	1,843	2,919	581	398	475	378	219
MAX	119	1,670	7,400	14,800	6,660	7,360	4,990	2,300	585	565	462	328
MIN	34	11	174	58	277	193	675	321	242	411	300	151
AC-FT	3,910	11,980	59,530	150,300	87,410	113,300	173,700	35,710	23,700	29,220	23,220	13,020

CAL YR 1966: TOTAL 227,612 MEAN 624 MAX 12,300 MIN 11 AC-FT 451,500
WAT YR 1967: TOTAL 365,535 MEAN 1,001 MAX 14,800 MIN 11 AC-FT 725,000

SACRAMENTO RIVER BASIN

989

11-4525. CACHE CREEK AT YOLO, CALIF.

LOCATION.--Lat 38°43'30", long 121°48'25", in Rio Jesus Maria Grant, on left bank 800 ft upstream from highway bridge and 0.5 mile south of Yolo.

DRAINAGE AREA.--1,139 sq mi.

RECORDS AVAILABLE.--January 1903 to September 1967. Records for water year 1903 incomplete, yearly estimate published in WSP 1315-A.

GAGE.--Digital water-stage recorder. Datum of gage is 50.27 ft above mean sea level, adjustment of 1929. Prior to summer of 1930, staff gage at datum 7.97 ft higher. Summer 1930 to June 11, 1954, graphic water-stage recorder at datum 6.00 ft higher. June 11, 1954, to July 16, 1965, graphic water-stage recorder at datum 2.00 ft higher, July 16 to Nov. 16, 1965, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--65 years, 510 cfs (369,200 acre-ft per year).

EXTREMES.--Maximum discharge during year, 26,900 cfs Jan. 22 (gage height, 29.95 ft); no flow for several months.

1903-67: Maximum discharge, 41,400 cfs Feb. 25, 1958 (gage height, 35.11 ft, present datum); maximum stage observed, 38.2 ft (present datum) Mar. 10, 1904; no flow at times in each year.

REMARKS.--Records good. Flow regulated by Clear Lake beginning in 1915 (see sta. no. 4500). Diversions for irrigating up to about 30,000 acres between stations near Capay and at Yolo, from data furnished by Clear Lake Water Co. Records of water temperatures and suspended-sediment loads for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0	0	124	66	6,630	190	2,340	2,350	0	0	0	0
2	0	0	122	62	5,360	190	2,270	1,310	7.4	0	0	0
3	0	0	3,460	59	4,630	190	2,210	867	85	0	0	0
4	0	0	1,170	55	4,200	185	2,210	765	112	0	0	0
5	0	0	7,030	51	3,890	185	2,220	706	64	0	0	0
6	0	0	3,450	47	3,600	187	2,710	650	33	0	0	0
7	0	0	1,840	44	3,370	176	3,950	569	32	0	0	0
8	0	0	1,160	41	2,280	169	3,730	530	11	0	0	0
9	0	0	800	38	1,110	164	3,550	484	0	0	0	0
10	0	0	666	36	977	160	3,450	432	0	0	0	0
11	0	0	674	35	864	344	3,660	406	0	0	0	0
12	0	0	538	33	782	526	1,670	368	0	0	0	0
13	0	0	450	31	729	1,000	939	334	0	0	0	0
14	0	0	395	28	682	2,500	800	304	0	0	0	0
15	0	0	364	26	647	2,970	748	284	0	0	0	0
16	0	0	290	24	618	6,780	729	247	0	0	0	0
17	0	0	224	22	593	5,700	712	55	0	0	0	0
18	0	0	197	20	521	4,440	3,650	0	0	0	0	0
19	0	0	167	18	394	4,090	4,110	0	0	0	0	0
20	0	498	146	24	331	3,850	3,750	0	0	0	0	0
21	0	1,120	130	9,270	298	3,860	4,010	0	0	0	0	0
22	0	642	115	13,600	275	3,730	4,510	0	0	0	0	0
23	0	428	101	3,140	260	3,660	3,970	0	0	0	0	0
24	0	208	88	4,280	239	3,600	5,050	0	0	0	0	0
25	0	106	79	4,020	230	2,040	4,410	0	0	0	0	0
26	0	57	65	2,300	222	1,040	3,990	0	0	0	0	0
27	0	28	57	5,340	210	923	3,090	0	0	0	0	0
28	0	21	83	6,500	200	844	2,710	0	0	0	0	0
29	0	59	83	11,600	-----	808	2,560	0	0	0	0	0
30	0	161	76	10,600	-----	842	2,440	0	0	0	0	0
31	0	-----	70	9,740	-----	1,770	-----	0	-----	0	0	-----
TOTAL	0	3,328	24,214	81,150	44,142	57,113	86,148	10,661	344.4	0	0	0
MEAN	0	111	781	2,618	1,577	1,842	2,872	344	11.5	0	0	0
MAX	0	1,120	7,030	13,600	6,630	6,780	5,050	2,350	112	0	0	0
MIN	0	0	57	18	200	160	712	0	0	0	0	0
AC-FT	0	6,600	48,030	161,000	87,550	113,300	170,900	21,150	683	0	0	0

CAL YR 1966: TOTAL 138,800.30 MEAN 380 MAX 13,600 MIN 0 AC-FT 275,300
WAT YR 1967: TOTAL 307,100.40 MEAN 841 MAX 13,600 MIN 0 AC-FT 609,100

SACRAMENTO RIVER BASIN

11-4530, YOLO BYPASS NEAR WOODLAND, CALIF.

LOCATION.--Lat 38°40'40", Long 121°38'35", on left bank 300 ft (revised) upstream from Sacramento and Woodland railroad bridge, 6 miles upstream from Sacramento bypass, 7 miles downstream from Fremont weir, and 7 miles east of Woodland.

RECORDS AVAILABLE.--October 1939 to September 1967. Monthly discharge only for some periods, published in WSP 1315-A.

GAGE.--Graphic water-stage recorder. Gage is set to datum of Corps of Engineers which is 3.41 ft below mean sea level. Prior to Dec. 17, 1941, staff gage, and Dec. 18-31, 1941, graphic water-stage recorder, at datum 0.73 higher. A supplementary graphic water-stage recorder 7 miles downstream at different datum is used for records of low flow.

AVERAGE DISCHARGE.--28 years, 3,813 cfs (2,760,000 acre-ft per year).

EXTREMES.--Maximum discharge during year, 125,000 cfs Feb. 1 (gage height, 28.52 ft); no flow for many days. 1939-67: Maximum discharge, 272,000 cfs Feb. 8, 1942 (gage height, 32.00 ft); no flow at times in 1939-40, 1963-67.

REMARKS.--Records fair. Flow is from Cache Creek and Knights Landing Ridge Cut plus floodwater passing over Fremont weir; during the summer months, the flow consists largely of return water from irrigation. There is some diversion for irrigation between the main and supplementary gage which affects the low flow record.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9.6	0.90	870	182	123,000	476	2,460	2,450	1,580	43		0
2	9.6	.90	1,010	120	111,000	404	2,690	2,200	1,840	0		0
3	9.6	.90	2,090	99	92,200	362	2,650	1,620	2,080	0		0
4	9.6	1.5	3,900	94	69,400	320	2,570	1,270	2,010	0		0
5	9.6	1.8	5,960	85	53,000	301	2,560	1,190	2,460	0		0
6	9.0	2.4	20,200	83	42,500	276	2,780	1,140	2,780	0		0
7	9.0	2.7	30,700	77	34,900	255	3,770	1,080	2,850	0		213
8	9.6	2.7	29,600	69	29,400	232	4,320	1,040	2,910	0		140
9	8.4	2.4	24,700	69	22,600	219	4,070	860	2,910	0		92
10	7.8	2.1	21,200	66	16,000	215	3,870	725	2,740	0		85
11	6.6	2.1	19,200	62	8,680	245	3,840	750	2,510	0		82
12	6.6	1.8	16,900	62	4,380	451	3,170	692	2,240	0		71
13	6.6	1.8	12,000	58	2,490	799	1,920	550	1,900	0		66
14	3.3	1.8	6,140	54	1,940	1,430	1,500	384	1,700	0		68
15	3.0	2.1	2,680	52	1,670	3,150	1,340	292	1,580	0		69
16	2.7	2.1	1,530	51	1,540	4,760	1,240	254	1,460	0		66
17	2.4	2.4	1,250	40	1,380	7,510	1,170	191	1,210	0		57
18	2.4	2.4	1,100	39	1,250	9,220	1,960	113	968	0		52
19	2.4	2.1	912	40	1,110	24,000	3,730	94	768	0		34
20	1.8	4.6	795	40	905	21,400	3,810	92	672	0		25
21	1.8	145	708	1,100	782	12,500	3,830	87	624	0		23
22	1.8	878	648	16,100	710	6,090	4,580	80	588	0		25
23	1.5	1,720	576	36,200	670	4,240	4,720	87	488	0		24
24	1.2	1,450	524	40,500	640	3,800	4,980	102	384	0		24
25	1.2	997	498	37,500	680	3,230	5,380	291	337	0		22
26	.60	546	498	29,200	670	1,850	5,100	1,120	318	0		20
27	.60	266	481	24,600	638	1,430	4,480	1,840	252	0		21
28	.60	169	431	26,500	564	1,260	3,550	1,750	200	0		20
29	.60	193	404	43,000	-----	1,220	2,970	1,460	140	0		22
30	.60	334	366	82,000	-----	1,290	2,650	1,300	99	0		24
31	.60	-----	318	112,000	-----	1,700	-----	1,410	-----	0		-----
Total	140.7	6,739.5	208,189	450,142	624,699	114,635	97,660	26,514	42,598	43.0	0	1,345
Mean	4.54	225	6,716	14,520	22,310	3,698	3,255	855	1,420	1.39	0	44.8
Max	9.6	1,720	30,700	112,000	123,000	24,000	5,380	2,450	2,910	43	0	213
Min	0.60	0.9	318	39	564	215	1,170	80	99	0	0	0
Ac-ft	279	13,370	412,900	892,800	1,239,000	227,400	193,700	52,590	84,490	85	0	2,670

Cal yr 1966: Total 364,575.9 Mean 999 Max 30,700 Min 0 Ac-ft 723,100
 Wtr yr 1967: Total 1,572,705.2 Mean 4,309 Max 123,000 Min 0 Ac-ft 3,119,000

SACRAMENTO RIVER BASIN

991

11-4532. DRY CREEK NEAR MIDDLETOWN, CALIF.

LOCATION.--Lat 38°44'05", long 122°38'50", in NW¼ sec.9, T.10 N., R.7 W., on right bank 0.3 mile downstream from Kroll Creek, 2.1 miles southwest of Middletown, and 2.7 miles upstream from mouth.

DRAINAGE AREA.--8.35 sq mi.

RECORDS AVAILABLE.--May 1959 to September 1967.

GAGE.--Digital water-stage recorder. Datum of gage is 1,172.15 ft above mean sea level, datum of 1929, supplementary adjustment of 1960. Prior to Apr. 7, 1965, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--8 years, 26.9 cfs (19,470 acre-ft per year).

EXTREMES.--Maximum discharge during year, 2,380 cfs Jan. 21 (gage height, 8.98 ft); no flow for many days.
1959-67: Maximum discharge, 3,470 cfs Feb. 8, 1960 (gage height, 9.90 ft); no flow for many days in each year.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0	0	68	7.8	123	7.8	57	27	4.9	1.8	.16	0
2	0	0	440	7.3	84	7.5	46	25	37	1.7	.16	0
3	0	0	190	7.0	65	7.5	41	22	17	1.6	.14	0
4	0	0	640	6.8	51	7.5	37	20	10	1.6	.10	0
5	0	0	330	6.5	42	6.5	52	19	9.1	1.5	.08	0
6	0	1.2	200	6.3	36	6.3	173	17	8.0	1.4	.08	0
7	0	.70	115	6.0	32	6.0	91	16	7.3	1.3	.06	0
8	0	.50	80	5.8	29	5.8	64	14	6.3	1.3	.06	0
9	0	.40	56	5.5	25	5.5	49	15	6.0	1.4	.05	0
10	0	.40	70	5.3	23	4.2	76	15	5.5	1.3	.05	0
11	0	.60	58	5.1	20	7.3	69	13	5.1	1.1	.04	0
12	0	6.3	44	5.1	19	8.2	52	12	4.8	1.1	.04	0
13	0	6.0	37	4.9	18	7.7	42	11	4.5	.95	.03	0
14	0	58	31	4.9	17	6.4	40	10	4.1	.90	.03	0
15	0	207	27	4.7	16	139	40	9.4	4.0	.85	.02	0
16	0	187	24	4.5	15	468	35	9.1	3.7	.75	.02	0
17	0	25	22	4.3	14	123	164	8.5	3.5	.75	.01	0
18	0	13	20	4.1	13	79	119	8.0	3.4	.75	0	0
19	0	247	18	4.1	12	55	88	7.8	3.5	.65	0	0
20	0	546	17	4.90	11	91	69	6.8	3.3	.65	0	0
21	0	150	15	1,370	11	72	88	6.3	3.3	.60	0	0
22	0	110	14	226	11	58	73	5.5	3.0	.52	0	0
23	.10	49	13	99	10	96	91	5.3	3.0	.52	0	0
24	.10	32	12	174	9.7	56	74	4.9	2.8	.48	0	0
25	.10	23	12	114	12	44	59	4.7	2.5	.40	0	0
26	.10	19	11	134	9.4	38	50	4.5	2.4	.36	0	0
27	.10	15	10	155	8.5	32	48	4.1	2.4	.32	0	0
28	.10	20	9.9	334	8.3	31	39	4.1	2.3	.28	0	0
29	.10	37	9.4	589	-----	26	35	3.9	2.1	.28	0	0
30	0	30	8.8	298	-----	69	31	3.8	1.9	.22	0	0
31	0	-----	8.0	260	-----	81	-----	3.8	-----	.20	0	-----
TOTAL	0.70	1,784.10	2,610.1	4,349.0	744.9	1,956.4	1,992	336.5	176.7	27.53	1.13	0
MEAN	.023	59.5	84.2	140	26.6	63.1	66.4	10.9	5.89	.89	.037	0
MAX	.10	546	640	1,370	123	468	173	27	37	1.8	.16	0
MIN	0	0	8.0	4.1	8.3	5.5	31	3.8	1.9	.20	0	0
AC-FT	1.4	3,540	5,180	8,630	1,480	3,880	3,950	667	350	55	2.2	0

CAL YR 1966: TOTAL 10,409.10 MEAN 28.5 MAX 1,300 MIN 0 AC-FT 20,650
WAT YR 1967: TOTAL 13,979.06 MEAN 38.3 MAX 1,370 MIN 0 AC-FT 27,730

Peak discharge (base, 600 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-15	2315	6.64	786	1-21	0745	8.98	2,380
11-20	0130	8.88	2,280	1-29	0230	8.03	1,550
12- 2	1400	7.44	1,160	3-15	2300	6.70	810
12- 4	2200	8.08	1,590				

SACRAMENTO RIVER BASIN

11-4535. PUTAH CREEK NEAR GUENOC, CALIF.

LOCATION.--Lat 38°46'45", long 122°31'00", in Guenoc Grant, on right bank just upstream from Coyote Valley dam-site, 2.8 miles upstream from Soda Creek, 3.2 miles downstream from highway bridge at Guenoc, Lake County.

DRAINAGE AREA.--113 sq mi (revised).

RECORDS AVAILABLE.--February 1904 to September 1906, July 1930 to September 1967. Monthly discharge only for some periods, published in WSP 1315-A.

GAGE.--Graphic water-stage recorder. Datum of gage is 914.18 ft above mean sea level, datum of 1929, supplementary adjustment of 1960. February 1904 to September 1906, staff gage a quarter of a mile upstream at different datum.

AVERAGE DISCHARGE.--39 years, 206 cfs (149,100 acre-ft per year); median of yearly mean discharges, 174 cfs (138,000 acre-ft per year).

EXTREMES.--Maximum discharge during year, 20,300 cfs Jan. 21 (gage height, 18.63 ft); minimum daily, 0.10 cfs Oct. 6-8.

1904-6, 1930-67: Maximum discharge, 32,000 cfs Dec. 11, 1937 (gage height, 22.7 ft), from rating curve extended above 13,000 cfs; no flow for many days in August and September 1964.

REMARKS.--Records good. No regulation; diversions and ground-water withdrawals for irrigation of about 1,600 acres above station. Records of water temperatures and suspended-sediment loads for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	.40	1.0	405	79	1,320	106	525	318	76	25	6.2	3.4
2	.40	.70	2,830	78	927	104	425	294	267	25	6.2	3.4
3	.40	.60	1,660	75	709	102	382	270	242	24	6.0	3.2
4	.30	.80	3,920	72	579	101	341	251	133	22	6.0	3.4
5	.30	1.1	3,920	69	477	95	360	235	107	21	6.2	3.2
6	.10	1.5	1,630	68	406	90	1,230	220	98	20	6.0	3.0
7	.10	1.4	950	66	352	88	837	204	92	19	5.5	3.0
8	.10	1.3	658	63	313	85	616	188	83	19	5.3	3.0
9	.30	1.2	501	62	284	82	491	182	79	18	5.3	3.2
10	.30	1.3	639	60	258	205	589	188	75	18	5.3	3.2
11	.20	1.3	451	58	231	811	608	171	71	16	5.0	3.2
12	.20	1.3	368	58	216	810	471	160	66	15	4.8	3.2
13	.20	1.3	323	56	202	774	397	151	62	14	4.8	2.9
14	.20	1.5	284	55	188	568	365	141	58	13	4.8	2.9
15	.20	1.42	242	53	176	711	377	136	54	13	4.4	2.9
16	.60	752	212	52	171	4,440	343	130	49	12	4.6	2.6
17	.70	96	188	50	162	1,360	1,010	123	45	12	4.4	2.6
18	.60	46	169	49	155	837	1,180	117	43	10	4.4	2.6
19	.60	1,370	157	48	146	620	927	110	42	9.5	4.3	2.5
20	.90	2,800	144	1,750	139	658	677	106	42	9.5	4.1	2.5
21	.80	1,060	134	12,900	133	627	833	102	40	8.5	4.3	2.4
22	1.2	724	126	2,840	128	491	753	98	38	7.9	4.3	2.2
23	1.2	318	120	1,220	126	635	878	92	36	7.9	4.3	2.2
24	1.0	202	114	2,460	125	467	905	88	35	7.9	4.1	2.2
25	.70	149	107	1,410	133	394	693	86	33	7.5	3.9	2.4
26	.90	122	102	1,370	120	346	568	85	33	7.0	3.9	2.0
27	.60	102	98	1,500	112	306	525	82	33	6.0	3.9	1.7
28	.50	263	93	2,360	109	289	454	78	31	5.5	3.7	1.7
29	.80	482	90	5,000	--- --	265	397	76	29	6.5	3.7	1.6
30	1.0	229	88	2,820	--- --	556	352	74	27	6.7	3.5	1.7
31	1.1	--- --	82	2,390	--- --	795	--- --	74	--- --	6.5	3.5	--- --
Total	16.90	8,873.30	20,805	39,191	8,397	17,818	18,509	4,630	2,119	412.9	1,467	80.0
Mean	.55	296	671	1,264	300	575	617	149	70.6	13.3	4.70	2.67
Max	1.2	2,800	3,920	12,900	1,320	4,440	1,230	318	267	25	6.2	3.4
Min	.10	.60	82	48	109	82	341	74	27	5.5	3.5	1.6
Ac-ft	34	17,600	41,270	77,730	16,660	35,340	36,710	9,180	4,200	819	291	159

Cal yr 1966: Total 80,389.2 Mean 220 Max 8,350 Min .10 Ac-ft 159,400
 Wtr yr 1967: Total 120,998.8 Mean 332 Max 12,900 Min .10 Ac-ft 240,000

Peak discharge (base, 5,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-19	2400	12.42	7,900	1-21	1200	18.63	20,300
12- 2	1700	12.78	8,450	1-29	0500	14.05	10,600
12- 5	0100	13.36	9,380	3-16	0200	12.19	7,560

11-4539. LAKE BERRYTESSA NEAR WINTERS, CALIF.

LOCATION.--Lat 38°30'50", long 122°06'15", in SE¼NW¼ sec.29, T.8 N., R.2 W., near center of Monticello Dam on Putah Creek, 7.4 miles west of Winters.

DRAINAGE AREA.--566 sq mi.

RECORDS AVAILABLE.--January 1957 to September 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is at mean sea level (levels by Bureau of Reclamation).

EXTREMES.--Maximum contents during year, 1,679,600 acre-ft Jan. 31 (elevation, 443.97 ft); minimum, 1,343,800 acre-ft Nov. 11, 13 (elevation, 426.12 ft).

1957-67: Maximum contents, 1,686,100 acre-ft Jan. 6, 1965 (elevation, 444.30 ft); minimum since irrigation pool first filled, 1,077,900 acre-ft Oct. 10, 11, 1962 (elevation, 410.60 ft).

REMARKS.--Reservoir is formed by concrete arch-gravity dam, completed November 1956. Usable capacity, 1,592,000 acre-ft between elevations 253.25 (invert of outlet valves) and 440 ft (crest of glory-hole spillway) above mean sea level. Dead storage, 10,340 acre-ft. Water is released down Putah Creek and is diverted into Putah South diversion canal for irrigation of about 46,000 acres in the lower Sacramento Valley. Total diverted during year was 149,209 acre-ft. Releases for irrigation began in May 1959. Records, including extremes, show total contents at 2400 hours.

COOPERATION.--Records furnished by Bureau of Reclamation.

CAPACITY TABLE (ELEVATION, IN FEET, AND CONTENTS, IN ACRE-FT)

400	911,200
410	1,068,100
420	1,236,000
430	1,414,200
445	1,699,900

CONTENTS, IN THOUSANDS OF ACRE-FEET, AT 2400 HOURS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1384.4	1348.3	1380.8	1474.4	1675.1	1616.4	1631.9	1624.1	1605.0	1587.7	1541.4	1496.5
2	1382.6	1347.2	1398.5	1474.2	1669.8	1616.2	1631.1	1621.8	1607.3	1586.5	1539.7	1495.4
3	1381.2	1346.9	1404.7	1474.2	1663.7	1615.8	1630.2	1619.7	1608.1	1585.0	1538.0	1494.4
4	1379.5	1345.8	1423.9	1474.1	1658.6	1615.4	1629.2	1618.1	1608.7	1582.8	1536.3	1492.9
5	1378.8	1344.9	1445.7	1474.1	1654.5	1614.8	1628.8	1616.0	1609.5	1581.5	1534.6	1492.0
6	1377.7	1345.3	1454.4	1474.1	1650.4	1614.7	1635.0	1614.8	1609.3	1579.6	1533.1	1491.1
7	1376.6	1344.7	1458.3	1473.9	1646.7	1614.1	1635.8	1612.9	1608.3	1577.9	1531.6	1489.4
8	1375.7	1344.5	1460.5	1473.9	1643.8	1613.9	1635.8	1612.1	1608.1	1576.7	1530.2	1488.2
9	1374.5	1344.2	1463.1	1473.9	1640.5	1613.1	1634.8	1611.9	1607.7	1575.2	1528.9	1486.8
10	1373.6	1344.2	1465.7	1473.7	1637.7	1614.8	1635.2	1612.3	1607.1	1573.8	1527.2	1485.6
11	1372.1	1343.8	1467.4	1473.9	1635.6	1616.8	1635.2	1612.3	1606.5	1572.5	1525.7	1484.9
12	1371.0	1344.0	1468.1	1474.1	1634.2	1621.4	1634.1	1612.3	1606.1	1571.4	1524.2	1484.0
13	1369.2	1343.8	1469.4	1474.1	1631.9	1624.0	1632.5	1612.5	1605.6	1569.8	1522.9	1482.8
14	1367.8	1344.0	1470.3	1474.1	1629.8	1624.5	1631.5	1612.7	1605.2	1568.3	1521.7	1481.9
15	1366.7	1346.2	1470.9	1474.1	1628.2	1625.5	1630.8	1612.7	1604.4	1566.9	1520.2	1480.8
16	1365.2	1347.8	1471.8	1473.7	1626.9	1647.5	1629.6	1612.7	1603.8	1565.0	1518.5	1479.3
17	1364.2	1347.8	1472.0	1473.5	1625.7	1648.1	1633.5	1612.9	1603.2	1563.3	1517.2	1478.5
18	1363.3	1347.6	1472.6	1473.5	1624.7	1646.5	1637.0	1612.7	1602.3	1561.6	1516.1	1478.0
19	1362.0	1354.3	1473.1	1473.5	1623.8	1644.2	1638.3	1612.5	1600.9	1560.1	1514.6	1477.0
20	1360.9	1366.0	1473.5	1483.2	1622.4	1642.0	1638.1	1612.5	1599.8	1558.4	1513.4	1476.7
21	1360.0	1370.8	1473.7	1579.8	1621.2	1640.3	1639.1	1612.1	1599.0	1557.0	1511.9	1475.9
22	1358.9	1373.0	1473.9	1596.1	1620.6	1638.1	1639.5	1611.9	1598.0	1555.5	1510.6	1475.2
23	1357.8	1373.6	1474.1	1601.3	1619.5	1637.0	1640.9	1611.4	1597.1	1554.0	1508.7	1474.6
24	1356.9	1373.9	1474.4	1622.6	1619.1	1635.4	1641.2	1610.6	1595.9	1552.8	1507.0	1474.1
25	1355.9	1373.9	1474.6	1628.0	1618.9	1633.7	1638.7	1609.6	1595.0	1551.3	1505.7	1473.3
26	1354.8	1373.9	1474.6	1632.7	1618.1	1632.1	1636.0	1608.9	1593.8	1550.2	1504.4	1472.6
27	1354.1	1373.9	1474.4	1635.6	1617.8	1630.2	1633.7	1608.1	1592.7	1548.6	1503.1	1471.3
28	1352.8	1376.5	1474.4	1642.0	1616.8	1629.4	1631.1	1607.1	1591.5	1547.1	1501.4	1470.3
29	1352.1	1378.6	1474.6	1666.3	-----	1627.8	1628.6	1606.1	1590.3	1546.0	1500.6	1469.6
30	1350.7	1379.5	1474.6	1679.2	-----	1630.4	1626.5	1605.2	1589.0	1544.5	1499.3	1468.5
31	1349.8	-----	1474.4	1679.6	-----	1632.7	-----	1604.6	-----	1542.9	1498.0	-----
(†)	426.45	428.10	433.26	443.97	440.75	441.57	441.25	440.12	439.31	436.90	434.52	432.94
(‡)	-36.300	+29.700	+94.900	+205.200	+62.800	+15.900	+6.200	-21.900	-15.600	-46.100	-44.900	-29.500
(††)	6.900	1.997	992	1406	2.842	3.293	3.019	9.699	9.977	14.959	14.154	10.612
Max	1384.400	1379.500	1474.600	1679.600	1675.100	1648.100	1641.200	1624.100	1608.700	1587.700	1541.400	1496.500
Min	1349.800	1343.800	1380.800	1473.500	1616.800	1613.100	1626.500	1604.600	1589.000	1542.900	1498.000	1468.500

Calendar year 1966..... † +20,600 Max 1,617,000 Min 1,343,800
 Water year 1966-67..... † +82,400 Max 1,679,600 Min 1,343,800

† Elevation in feet, at end of month.

‡ Change in contents, in acre-feet.

†† Evaporation, in acre-feet.

SACRAMENTO RIVER BASIN

11-4540. PUTAH CREEK NEAR WINTERS, CALIF.

LOCATION.--Lat 38°30'55", long 122°04'50", in NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.28, T.8 N., R.2 W., on left bank 1.3 miles downstream from Monticello Dam, 6 miles west of Winters, and 8 miles downstream from Capell Creek.

DRAINAGE AREA.--574 sq mi.

RECORDS AVAILABLE.--July 1930 to September 1967.

GAGE.--Digital water-stage recorder. Datum of gage is 160.75 ft above mean sea level (river-profile survey). June 28, 1930, to Feb. 29, 1940, at datum about 1 ft higher. Prior to Oct. 27, 1965, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--37 years, 495 cfs (358,400 acre-ft per year). Adjusted for change in storage in and evaporation from Lake Berryessa.

EXTREMES.--Maximum discharge during year, 6,390 cfs Jan. 31 (gage height, 14.69 ft); minimum daily, 14 cfs Nov. 7-10.

1930-57 (prior to regulation by Monticello Dam): Maximum discharge, 81,000 cfs Feb. 27, 1940 (gage height, 30.5 ft, present datum), from rating curve extended above 30,000 cfs; no flow Sept. 6-15, 1950, July 26 to Sept. 1, Sept. 6-9, 1955.

1958-67: Maximum discharge, 7,740 cfs Jan. 7, 1965 (gage height, 14.96 ft); minimum daily, 6.2 cfs Dec. 10, 1958.

Maximum stage known since at least 1905, that of Feb. 27, 1940, on basis of records for station at Winters.

REMARKS.--Records good. Flow regulated by Lake Berryessa beginning January 1957 (see sta. no. 4539). Records of water temperatures for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	691	443	48	73	5,830	521	1,540	2,030	298	638	651	458
2	672	440	112	72	5,180	490	1,470	1,860	162	608	662	434
3	664	431	40	73	4,550	472	1,400	1,780	160	611	676	419
4	560	429	67	75	4,000	446	1,330	1,670	177	617	668	394
5	448	428	121	87	3,590	418	1,280	1,580	190	611	635	420
6	426	232	55	97	3,160	399	1,550	1,490	216	620	589	435
7	385	14	40	93	2,840	381	1,820	1,420	251	596	561	422
8	366	14	56	88	2,550	367	1,820	1,100	264	617	573	432
9	357	14	71	88	2,290	357	1,760	366	272	611	581	411
10	471	14	59	88	2,080	328	1,700	323	277	472	595	381
11	537	48	50	103	1,830	491	1,760	319	310	548	552	371
12	520	71	69	112	1,690	658	1,700	321	319	599	543	378
13	494	74	68	103	1,560	883	1,620	322	342	638	534	373
14	477	65	67	88	1,410	962	1,540	323	324	641	542	353
15	461	50	66	88	1,280	982	1,460	320	338	629	570	338
16	455	43	66	88	1,160	2,380	1,400	319	400	623	565	310
17	458	26	65	88	1,070	2,940	1,420	321	415	653	548	285
18	445	15	64	94	998	2,820	1,750	322	410	629	561	269
19	443	18	64	98	934	2,630	2,000	316	437	605	584	249
20	444	19	64	77	848	2,410	2,000	311	491	599	539	244
21	444	59	72	634	792	2,270	2,030	317	491	583	531	259
22	447	77	82	179	736	2,110	2,120	363	503	576	567	255
23	466	64	96	68	687	1,990	2,150	410	488	553	579	228
24	453	64	71	637	653	1,850	2,630	427	490	528	569	212
25	442	75	71	1,290	650	1,710	3,120	496	520	532	590	286
26	441	82	71	1,560	617	1,560	2,900	493	514	548	546	340
27	443	82	72	1,950	579	1,450	2,710	448	478	583	499	346
28	443	78	72	2,290	545	1,360	2,510	477	505	570	448	338
29	443	69	73	4,310	-----	1,250	2,350	446	559	532	440	277
30	443	49	73	5,630	-----	1,250	2,170	441	605	542	462	312
31	433	-----	72	6,270	-----	1,540	-----	433	-----	604	479	-----
TOTAL	14,672	3,587	2,137	26,591	54,109	39,675	57,010	21,564	11,206	18,316	17,439	10,229
MEAN	473	120	68.9	858	1,932	1,280	1,900	696	374	591	563	341
MAX	691	443	121	6,270	5,830	2,940	3,120	2,030	605	653	676	458
MIN	357	14	40	68	545	328	1,280	311	160	472	440	212
AC-FT	29,100	7,110	4,240	52,740	107,300	78,690	113,100	42,770	22,230	36,330	34,590	20,290
Mean †	4.88	652	1,628	4,217	852	1,592	1,847	499	279	84.4	62.4	23.5
Ac-ft†	= 300	38,810	100,100	259,300	47,340	97,880	109,900	30,600	16,610	5,190	3,840	1,400

CAL YR 1966: TOTAL 136,042 MEAN 373 MAX 768 MIN 13 AC-FT 269,800 Mean † 527 Ac-ft † 381,800
WAT YR 1967: TOTAL 276,535 MEAN 758 MAX 6,270 MIN 14 AC-FT 548,500 Mean † 982 Ac-ft † 710,700

† Adjusted for change in contents of and evaporation from Lake Berryessa.

Note.--When inflow to reservoir is small and other quantities are large, discordant figures of net runoff may appear.

11-4541. PLEASANTS CREEK NEAR WINTERS, CALIF.

LOCATION.--Lat 38°28'40", long 122°01'43", in SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec.1, T.7 N., R.2 W., on left bank 0.2 mile upstream from unnamed tributary, 0.3 mile above bridge on Pleasants Valley road, 1.3 miles northeast of Pleasants Valley School, and 4.4 miles southwest of Winters.

DRAINAGE AREA.--15.9 sq mi.

RECORDS AVAILABLE.--October 1959 to September 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is 150.33 ft above mean sea level.

AVERAGE DISCHARGE.--8 years, 8.72 cfs (6,310 acre-ft per year).

EXTREMES.--Maximum discharge during year, 2,780 cfs Jan. 21 (gage height, 11.03 ft); no flow for many days. 1959-67: Maximum discharge, 3,780 cfs Jan. 31, 1963 (gage height, 12.36 ft), from rating curve extended above 2,200 cfs on basis of slope-area measurement at gage height 10.05 ft; no flow for many days in each year.

REMARKS.--Several small reservoirs above station. Minor diversions above station for irrigation.

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

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	3.6	1.8	7.7	7.6	30	25	8.9	2.1	0.40	0.20
2		0	212	1.8	5.9	7.4	25	23	19	2.0	.40	.10
3		0	31	1.8	4.6	7.2	22	22	11	1.8	.40	.10
4		0	140	1.8	3.9	6.9	20	20	6.4	1.8	.30	.10
5		0	193	1.8	3.3	6.3	20	18	5.6	1.7	.30	.10
6		0	51	1.8	2.8	6.1	101	13	5.6	1.6	.30	.10
7		0	17	1.7	2.5	6.0	50	17	5.3	1.6	.30	.10
8		0	11	1.6	2.2	6.0	35	15	4.8	1.6	.30	.20
9		0	10	1.5	2.0	6.0	30	14	4.7	1.6	.30	.10
10		0	18	1.5	1.9	6.5	47	13	4.4	1.6	.30	.10
11		0	10	1.5	1.7	5.1	49	12	4.2	1.6	.30	.10
12		0	7.8	1.5	1.6	11.5	36	12	4.2	1.4	.30	.10
13		0	6.4	1.5	1.4	7.5	30	11	4.1	1.3	.30	.10
14		0	5.5	1.5	1.3	3.4	28	11	3.8	1.2	.30	.10
15		0	4.8	1.4	1.2	6.8	29	10	3.6	1.2	.20	.10
16		0	4.3	1.4	1.2	5.16	24	9.7	3.5	1.2	.20	.10
17		0	3.9	1.4	1.1	9.3	59	9.1	3.4	1.0	.20	.10
18		0	3.6	1.4	1.1	6.4	64	8.4	3.2	1.0	.20	.10
19		.60	3.4	1.4	1.0	4.8	56	7.9	3.2	1.0	.20	.10
20		24	3.3	5.4	9.3	3.9	33	7.6	3.4	.90	.20	.10
21		20	3.0	1.540	8.8	3.5	8.8	7.1	3.1	.90	.20	.10
22		10	2.6	2.18	8.6	3.0	6.2	5.8	3.1	.80	.20	.20
23		1.1	2.6	7.5	8.6	3.2	6.5	6.6	2.9	.80	.20	.30
24		.30	2.5	4.28	8.9	2.6	6.7	6.4	2.7	.80	.20	.30
25		.10	2.4	10.7	1.1	2.3	5.4	6.3	2.6	.70	.20	.20
26		0	2.3	7.6	8.2	2.0	4.4	6.1	2.6	.70	.20	.20
27		0	2.1	6.0	7.6	1.9	4.0	6.0	2.7	.60	.20	.10
28		13	2.0	9.6	7.4	1.9	3.5	5.8	2.6	.60	.20	.10
29		2.9	2.1	3.64	-----	1.7	3.1	5.7	2.3	.60	.20	.10
30		2.2	2.0	2.55	-----	8.5	2.8	5.6	2.2	.60	.20	.10
31		-----	1.8	1.33	-----	5.8	-----	5.4	-----	.50	.20	-----
Total	0	100.30	765.0	3,436.1	561.4	1,538.0	1,317	351.5	1,39.1	36.80	7.90	3.90
Mean	0	3.34	24.7	1.11	20.0	49.6	43.9	11.3	4.64	1.19	0.25	0.13
Max	0	29	212	1,540	7.7	51.6	101	25	1.9	2.1	0.40	0.30
Min	0	0	1.8	1.4	7.4	6.0	20	5.4	2.2	0.50	0.20	0.10
Ac-ft	0	1.99	1,520	6,820	1,110	3,050	2,610	697	275	73	16	7.7

Cal yr 1966: Total 2,369.1 Mean 6.49 Max 400 Min 0 Ac-ft 4,700
 Wtr yr 1967: Total 8,257.0 Mean 22.6 Max 1,540 Min 0 Ac-ft 16,380

Crest-stage partial-record stations

As explained on page 497 the California District publishes annual maxima on small streams at about 310 sites in a separate publication Floods From Small Drainage Areas. In addition, discharge measurements are generally made in times of drought or flood to give better coverage to those events. Those measurements, and others collected for some special reason, are called measurements at miscellaneous sites.

The following table contains annual maximum discharges for crest-stage stations not included in above-mentioned report. A crest-stage gage is a device which will register the peak stage occurring between inspection of the gage. A stage-discharge relation for each gage is developed from discharge measurements made by indirect measurements of peak flow or by current meter. The date of the maximum discharge is not always certain but is usually determined by comparison with nearby continuous-record stations, weather records, or local inquiry. Only the maximum discharge for each water year is given. Information on some lower floods may have been obtained but is not published herein. The years given in the period of record represent water years for which the annual maximum has been obtained.

Annual maximum discharge at crest-stage partial-record stations

Annual maximum discharge at crest-stage partial-record stations							
Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (cfs)
Eagle Lake basin							
10-3952.5	Pine Creek near Westwood	SE $\frac{1}{4}$ sec.5, T.31 N., R.8 E., 1 mile southwest of Bogard Guard Station and 19 miles north of Westwood.	22.6	1950-61 ^a 1966-67	1-29-67	3.75	122
Buena Vista Lake basin							
11-1951.5	Bitterwater Creek near Maricopa	W $\frac{1}{2}$ sec.11, T.11 N., R.24 W., 1.0 mile southwest of Maricopa.	18.5	1961-67	2-25-67	--	a0.5
11-1953	Santiago Creek near Maricopa	NW $\frac{1}{4}$ sec.36, T.11 N., R.23 W., 8 miles southeast of Maricopa.	34.8	1961-67	12-6-66	15.86	139
11-1973.7	Bitterwater Creek near Lost Hills	NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec.21, T.27 S., R.18 E., 0.2 mile downstream from Cedar Canyon, 2.1 miles west of Lost Hills.	76.4	1961-67	12-6-66	1.55	133
Tulare Lake basin							
11-2095	North Fork Kaweah River at Kaweah	SE $\frac{1}{4}$ sec.34, T.16 S., R.28 E., 1.2 miles upstream from Manniken Creek, 1.5 miles north of Kaweah, and 3 miles upstream from mouth.	129	1910-60 ^a 1966-67	12-6-66	14.7	23,900
11-2125	South Fork Kings River near Cedar Grove	NW $\frac{1}{4}$ sec.8, T.13 S., R.30 E., 0.3 mile below Grizzly Creek and 4.5 miles west of Cedar Grove.	409	1950-57 ^a 1959-62 1964-67	12-6-66	14.94	11,800
11-2251	Los Gatos Creek below Jacalitos Creek, near Coalinga	At intersection of secs.22, 23, 26, 27, T.20 S., R.16 E., a bridge on El Dorado Ave., 8 miles west of Coalinga.	407	1959-67	12-6-66	11.59	4,760
11-2251.3	Zapato Chino Creek near Avenal	SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.27, T.21 S., R.16 E., 7 miles northwest of Avenal.	44.5	1961-67	12-6-66	10.65	720
San Joaquin River basin							
11-2630.5	Garzas Creek near Gustine	SW $\frac{1}{4}$ sec.18, T.8 S., R.8 E., above diversion weir 7.7 miles west of Gustine.	51.2	1959-67	1-21-67	5.48	986
11-2850	North Fork Tuolumne River above Dyer Creek, near Tuolumne	NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.34, T.2 N., R.16 E., at Riverside Guard Station, 0.2 mile upstream from Dyer Creek, and 2.2 miles northeast of Tuolumne.	69.2	1958-66 ^a 1967	3-16-67	4.60	2,150
11-3040	Corral Hollow Creek near Tracy	SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.24, T.35, R.4 E., just upstream from highway bridge, 0.8 mile downstream from Elk Ravine, and 6.3 miles southwest of Tracy.	61.6	1959-65 ^a 1967	2-4-67	3.03	152
11-3050	San Domingo Creek near San Andreas	NW $\frac{1}{4}$ sec.14, T.3 N., R.12 E., 600 ft downstream from bridge on State Highway 49.	27.1	1950-62 ^a 1963-67	1-21-67	2.58	107
11-3055	San Antonio Creek near San Andreas	NE $\frac{1}{4}$ sec.10, T.3 N., R.12 E., 800 ft below highway bridge, 1.9 miles above mouth, and 5 miles southeast of San Andreas.	48.1	1950-59 ^a 1961-67	1-21-67	4.31	1,360
11-3070	Esperanza Creek near Mokelumne Hill	NW $\frac{1}{4}$ sec.6, T.5 N., R.13 E., 600 ft above mouth, 6 miles east of Mokelumne Hill.	16.6	1951-59 ^a 1961-67	12-6-66	5.20	1,600
11-3075	Jesus Maria Creek near Mokelumne Hill	SE $\frac{1}{4}$ sec.16, T.5 N., R.12 E., 0.6 mile above mouth, 3.2 miles southeast of Mokelumne Hill.	34.6	1950-59 ^a 1961-67	1-21-67	5.37	1,740
11-3085	Murray Creek near San Andreas	SW $\frac{1}{4}$ sec.8, T.4 N., R.12 E., 600 ft above bridge on old State Highway 49 and 1.1 miles north of San Andreas, 1.5 miles above mouth.	23.4	1950-59 ^a 1961-67	1-21-67	4.64	813
Sacramento River basin							
11-3775	Paynes Creek near Red Bluff	SE $\frac{1}{4}$ sec.22, T.28 N., R.3 W., 0.4 mile upstream from mouth and 6.5 miles northeast of Red Bluff.	92.7	1949-66 ^a 1967	1-21-67	8.82	5,170
11-4030	East Branch of North Fork Feather River near Rich Bar	SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec.20, T.25 N., R.7 E., 0.5 mile upstream from mouth and 1.3 miles west of Rich Bar.	1,025	1950-61 ^a 1965-67	12-22-65 3-14-66 3-18-67	16.56 9.98 12.12	48,300 7,090 16,400
11-4245	Dry Creek near Wheatland	Lat 39°01'35", long 121°26'10", in Johnston Rancho land grant, 2,300 ft upstream from bridge on U.S. Highway 99E, 1.3 miles northwest of Wheatland, and 5 miles upstream from mouth.	99.5	1946-62 ^a 1965-67	1-21-67	11.79	5,290

^a Estimated.

[#] Operated as a continuous-record gaging station.

Measurements at miscellaneous sites

Measurements of streamflow at points other than gaging stations or partial-record stations are given in the following table.

Discharge measurements made at miscellaneous sites during water year 1967

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Measurements	
					Date	Discharge (cfs)
Honey Lake basin						
Ramsey Ditch	Susan River	SW¼NE¼ sec.31, T.30 N., R.12 E., 0.5 mile west of Susanville and 1.1 miles upstream from Piute Creek.	--	--	10-19-66 11-16-66	2.60 1.29
Eagle Lake basin						
Pine Creek	Eagle Lake	SE¼ sec.5, T.31 N., R.8 E., 1 mile southwest of Bogard Guard Station and 19 miles north of Westwood.	24.8	1950-61† 1964	9-14-67	*2.52
Tulare Lake basin						
East Fork Kaweah River	Kaweah River	NW¼ sec. 15, T.17 S., R.31 E., 300 ft upstream from Mineral King Post Office and 0.3 mile upstream from Monarch Creek.	--	1965-66	9-15-67	*19.0
North Fork Kaweah River	Kaweah River	SE¼ sec.34, T.16 S., R.28 E., 1.2 miles upstream from Manniken Creek and 1.5 miles north of Kaweah.	128	1919-60† 1963-66	9-1-67	*21.2
Cooper Creek	South Fork Kings River	S¼ sec.11, T.13 S., R.31 E., 0.5 mile above South Fork Kings River and 5.9 miles northeast of Cedar Grove.	--	1965-66	9-12-67	*3.49
Sheep Creek	South Fork Kings River	SE¼ sec.14, T.13 S., R.30 E., 0.7 mile above South Fork Kings River and 0.7 mile southwest of Cedar Grove.	--	1965-66	9-12-67	*4.52
Lewis Creek	South Fork Kings River	SW¼ sec.11, T.13 S., R.30 E., 0.3 mile above South Fork Kings River and 1.5 miles northwest of Cedar Grove.	--	1965-66	9-12-67	*9.34
Dinkey Creek	North Fork Kings River	Sec.3, T.12 S., R.26 E., 0.5 mile above mouth and 0.5 mile northwest of Balch Camp.	136	1920-37† 1959 1961-66	8-30-67	*41.9
San Joaquin River basin						
Fresno River	San Joaquin River	NW¼SE¼ sec.18, T.11 S., R.18 E., at Tozer sheet bridge on east edge of Madera.	--	--	3-13-67	b1,320
Fresno River	San Joaquin River	SW¼ sec.18, T.11 S., R.18 E., at North Lake Street bridge in Madera.	--	--	12-6-66 3-13-67	b1,150 b1,360
Fresno River	San Joaquin River	SE¼ sec.13, T.11 S., R.18 E., at Austin Street in Madera.	--	--	6-7-67	b741
Fresno River	San Joaquin River	NW¼ sec.14, T.11 S., R.16 E., 800 ft upstream from Road 19 bridge, 8 miles west of Madera.	--	--	6-7-67	b731
Ash Slough	Fresno River	NE¼ sec.27, T.10 S., R.15 E., at bridge on Road 13, 2.5 miles west of Madera.	--	--	5-4-67	b722
Tenaya Creek	Merced River	Lat 37°44'32", long 119°33'25", at bridge 0.7 mile above mouth and 1.7 miles east of Yosemite National Park Headquarters.	46.9	1904-09† 1912-58†	9-11-67	*8.05
Yosemite Creek	Merced River	Lat 37°44'45", long 119°35'40", 0.3 mile above mouth and 0.7 mile west of Yosemite National Park Headquarters.	43.2	1961,1966 1904-09† 1912-26†	5-24-67 9-11-67	890 *4.23
Crane Creek	Merced River	NW¼SW¼ sec.34, T.2 S., R. 20 E., 100 ft above diversion and 3 miles northeast of El Portal.	--	1960,1966 1964-66	9-12-67	*2.41
Merced River	San Joaquin River	NE¼ sec.17, T.5 S., R.14 E., at old Snelling--Merced highway bridge 1.4 miles southwest of Snelling.	--	--	6-29-67	b7,080
Merced River	San Joaquin River	SW¼ sec.25, T.5 S., R.13 E., at State Highway 59 bridge, 5.1 miles southwest of Snelling.	--	--	6-29-67	b7,220
Merced River	San Joaquin River	NW¼SW¼, sec.36, T.5 S., R.12 E., at Oakdale Road bridge, 4.0 miles northwest of Cressey.	--	--	6-30-67	b6,670
Merced River	San Joaquin River	NE¼ sec.8, T.6 S., R. 12 E., at Santa Fe Drive bridge, 0.5 mile northeast of Cressey.	--	--	6-29-67	b5,920
Merced River	San Joaquin River	SW¼ sec.35, T.6 S., R.10 E., at Milliken bridge, 2.1 miles north of Stevinson.	--	--	6-29-67	b4,750
Hunter Creek	North Fork Tuolumne River	NE¼ sec.19, T.1 N., R.17 E., at road Ford, 5.5 miles southeast of Tuolumne.	--	1911,1964	10-5-66	*.22
Beaver Creek	North Fork Stanislaus River	NW¼SEP sec.30, T.5 N., R.16 E., at bridge 0.5 mile upstream from boundary to Calaveras Big Trees State Park, and 4.7 miles east of White Pines.	--	--	9-29-67	*11.3

* Base flow.

† Operated as a continuous-record gaging station.

b Channel-capacity study made in this area.

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Measurements at miscellaneous sites--Continued

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Measurements	
					Date	Discharge (cfs)
San Joaquin River basin--Continued						
San Antonio Creek	Colorado River	NE¼ sec.10, T.3 N., R.12 E., 800 ft below highway bridge, 1.9 miles above mouth, and 5 miles southeast of San Andreas.	48.1	1950-59†	9-19-67	*5.63
Esperanza Creek	Calaveras River	NW¼ sec.6, T.5 N., R.13 E., 600 ft above mouth, 6 miles east of Mokelumne Hill.	16.6	1951-59†	9-6-66 9-19-67	*.30 *.78
Jesus Maria Creek	Calaveras River	SE¼ sec. 16, T.5 N., R.12 E., 0.6 mile above mouth, 3.2 miles southeast of Mokelumne Hill.	34.6	1950-59†	9-6-66 9-19-67	*.14 *2.65
Murray Creek	Calaveras River	SW¼ sec.8, T.4 N., R.12 E., 600 ft above bridge on old State Highway 49, 1.1 miles north of San Andreas and 1.5 miles above mouth.	23.4	1950-59†	9-7-66 9-19-67	*.03 *.89
Sacramento River basin						
Lost Creek	Hat Creek	NE¼SE¼ sec.33, T.32 N., R.4 E., 0.9 mile north of boundary of Lassen Volcanic National Park, and 14.5 miles northeast of Mineral.	--	1966	9-30-67	*6.35
Squaw Creek	Pit River	SW¼ sec.29, T.35 N., R.2 W., 1.3 miles upstream from Salt Creek, 2 miles upstream from Shasta Lake, and 10 miles west of town of Montgomery Creek.	64.0	1945-66†	10-1-66	*12
Clover Creek	Cow Creek	NE¼NE¼ sec.28, T.33 N., R.1 W., 2.5 miles upstream from Coal Creek and 2.7 miles northeast of Oak Run.	19.0	1957-59† 1966	9-22-67	*7.26
Oak Run Creek	Cow Creek	SE¼NW¼ sec.25, T.33 N., R.2 W., 800 ft downstream from road bridge, 1.1 miles northwest of town of Oak Run, 3.2 miles upstream from Tracy Creek, and 12.2 miles northeast of Millville.	11.0	1957-66†	10-5-66	*2.04
Mill Creek	Sacramento River	NE¼ sec.23, T.29 N., R.4 E., 200 ft above highway bridge on State Highway 36, 3.8 miles east of Mill Creek.	--	1966	9-1-67	*32.6
Stony Creek	Sacramento River	SE¼ sec.35, T.18 N., R.7 W., 0.5 mile below East Park feed canal diversion dam and 3 miles west of Stonyford.	97.0	1913-14† 1918-34† 1961-62 1964-66	9-5-67	39.9
Middle Fork Feather River	Feather River	SW¼ sec.8, T.23 N., R.11 E., on right bank 0.6 mile downstream from Bell Bar Creek and 2.2 miles west of Sloat.	819	1940-62† 1964,1966	9-12-67	*90.8
East Branch North Fork Feather River	Feather River	SW¼NE¼ sec. 20, T.25 N., R.7 E., 0.5 mile upstream from mouth and 1.3 miles west of Rich Bar.	1,025	1950-61† 1966	8-30-67	*104
Downie River	North Yuba River	NW¼ sec.35, T.20 N., R.10 E., 0.3 mile above mouth at Downieville.	72.7	1910-26† 1966	9-20-67	*73.6
Rock Creek	North Yuba River	SW¼ sec.5, T.19 N., R.10 E., 600 ft above mouth at Goodyears Bar.	8.98	1910-33† 1956 1960-66	9-20-67	*1.39
Goodyear Creek	North Yuba River	NW¼ sec.5, T.19 N., R.10 E., 300 ft above mouth and 0.5 mile north of Goodyears Bar.	12.9	1910-33† 1960-66	9-20-67	*6.89
North Yuba River	Yuba River	SW¼ sec.9, T.19 N., R.8 E., 500 ft above Slate Creek and 2.8 miles southeast of Strawberry Valley.	351	1965-66	9-28-67	*202
Dry Creek	Yuba River	NW¼ sec.25, T.19 N., R.6 E., 0.2 mile downstream from New York Creek and 0.9 mile northeast of Brownsville.	20.4	1948-60† 1961 1964-66	9-29-67	*6.57
Tells Creek	Silver Creek	SE¼NE¼ sec.11, T.12 N., R.14 E., at bridge on Loon Lake Road and 10 miles northeast of Riverton.	--	1964-66	9-28-67	*.78
Peavine Creek	South Fork Silver Creek	NW¼ sec.12, T.11 N., R.14 E., 600 ft above mouth, and 4.7 miles northwest of Kyburz.	--	--	5-23-67	55.2
Brush Creek	South Fork American River	NE¼SE¼ sec.10, T.11 N., R.12 E., on left bank 0.6 mile downstream from unnamed tributary and 4.1 miles northwest of Pollock Pines.	--	1964	9-27-67	*6.10

* Base flow.

† Operated as a continuous-record gaging station.

	Page		Page
Adobe Creek near Kelseyville-----	977	Camanche Reservoir near Clements-----	747
Alder Creek (Pyramid and Winnemucca Lakes basin) near Truckee-----	528	Camp Creek near Somerset-----	754
Alder Creek (American River basin) near Whitehall-----	962	Cantua Creek near Cantua Creek-----	647
American River at Fair Oaks-----	973	Canyon Creek below Bowman Lake-----	897
Middle Fork, above Middle Fork powerhouse, near Foresthill-----	934	Canyon Creek near Georgetown-----	953
at French Meadows-----	931	Carson River, East Fork, below Markleeville, near Markleeville-----	517
below interbay dam, near Foresthill-----	935	near Gardenville, Nev-----	518
near Auburn-----	954	West Fork, at Woodfords-----	519
near Foresthill-----	952	Cherry Creek, below Dion R. Holm powerhouse, near Mather-----	690
North Fork, at North Fork Dam-----	928	below Cherry Valley Dam, near Hetch Hetchy-----	685
of Middle Fork, near Foresthill-----	951	near Early Intake-----	689
South Fork, near Camino-----	969	Cherry Creek Canal near Early Intake-----	688
near Kyburz-----	960	Cherry Lake near Hetch Hetchy-----	684
near Lotus-----	971	Chicago Park flume near Dutch Flat-----	909
near Placerville-----	970	Chiquito Creek near Bass Lake-----	624
American River basin, Middle Fork, schematic diagram of-----	929	Chowchilla River, at Buchanan damsite, near Raymond-----	656
South Fork, schematic diagram of-----	955	East Fork, near Ahwahnee-----	653
Antelope Creek near Red Bluff-----	809	Middle Fork, near Nipinnawassee-----	655
Antelope Lake-----	874	West Fork, near Mariposa-----	654
Arcade Creek near Del Paso Heights-----	975	Churn Creek, below Newton Creek, near Redding-----	796
Ash Creek at Adin-----	771	Clavey River near Buck Meadows-----	695
Avenal Creek near Avenal-----	567	Clear Creek, at French Gulch-----	791
Bangor Canal below Miners Ranch Reservoir, near Oroville-----	852	near Igo-----	795
Bass Lake near Bass Lake-----	638	Clear Lake at Lakeport-----	983
Battle Creek below Coleman Fish Hatchery, near Cottonwood-----	805	Cole Creek near Salt Springs Dam-----	740
Bear Creek (tributary to Cache Creek) near Rumsey-----	986	Colgate power plant near French Corral-----	885
Bear Creek (tributary to Sacramento River) near Millville-----	800	Contra Costa Canal near Oakley-----	761
Bear Creek (tributary to San Joaquin River) near Catheys Valley-----	657	Cooperation, report of-----	490
near Lockeford-----	734	Corral Hollow Creek near Tracy-----	996
Bear Creek (tributary to South Fork San Joaquin River) near Lake Thomas A. Edison-----	620	Cosgrove Creek near Valley Springs-----	733
Bear River (tributary to Feather River) below Drum afterbay, near Blue Canyon-----	908	Cosumnes River, at McConnell-----	759
below Dutch Flat afterbay, near Dutch Flat-----	910	at Michigan Bar-----	758
below Rollins Dam, near Colfax-----	914	Middle Fork, near Somerset-----	756
near Auburn-----	915	North Fork, near El Dorado-----	755
near Wheatland-----	917	South Fork, near River Pines-----	757
Bear River (tributary to North Fork Mokelumne River) near Salt Springs Dam-----	741	Cottonwood Creek (Sacramento River basin), near Cottonwood-----	804
Bear River Canal intake (Feather River basin) near Colfax-----	913	Middle Fork, near Ono-----	801
Beardsley Lake near Strawberry-----	709	North Fork, near Igo-----	802
Bell Creek near Pinecrest-----	694	South Fork, near Cottonwood-----	803
Bidwell Creek below Mill Creek, near Fort Bidwell-----	543	Courtright Reservoir, contents of-----	595
Big Chico Creek near Chico-----	816	Cow Creek near Millville-----	798
Big Creek (San Joaquin River basin) below Huntington Lake-----	631	Cubic foot per second, definition of-----	491
Big Creek (Tulare Lake basin) above Pine Flat Reservoir, near Trimmer-----	605	Data, accuracy of-----	496
Big Creek (tributary to Tuolumne River) near Groveland-----	696	explanation of-----	493
Big Grizzly Creek near Portola-----	837	other data available-----	497
Bitterwater Creek near Lost Hills-----	996	Deer Creek (tributary to Sacramento River), below Slate Creek, near Deer Creek Meadows-----	814
near Maricopa-----	996	near Vina-----	815
Black Butte Reservoir near Orland-----	823	Deer Creek (tributary to Yuba River) near Smartville-----	902
Blackwood Creek near Tahoe City-----	522	Del Puerto Creek near Patterson-----	677
Boardman Canal near Emigrant Gap-----	905	Del Puerto Creek tributary No. 1 near Patterson-----	767
Boca Reservoir at Boca-----	534	Delta-Mendota Canal at Tracy pumping plant, near Tracy-----	735
Borel Canal below Isabella Dam-----	553	Don Pedro Reservoir near La Grange-----	699
Bowman Lake near Graniteville-----	894	Donnell Lake near Dardanelle-----	707
Bowman-Spaulding Canal at Jordan Creek siphon venturi, near Emigrant Gap-----	896	Donner Creek at Donner Lake, near Truckee-----	526
Bowman-Spaulding Canal intake near Sierra City-----	895	Drum Canal above Drum forebay, near Blue Canyon-----	891
Bridgeport Reservoir near Bridgeport-----	508	Drum Canal at intake near Emigrant Gap-----	890
tributary near Bridgeport-----	507	Dry Creek (American River basin) tributary near Roseville-----	974
Buckeye Creek near Bridgeport-----	505	Dry Creek (Feather River basin) near Wheatland-----	996
Buck-Loon tunnel near Meeks Bay-----	938	Dry Creek (tributary to Kaweah River) near Lemoncove-----	590
Bucks Lake near Bucks Lodge-----	865	Dry Creek (tributary to Mokelumne River basin), near Galt--above Sutter Creek, near Ione-----	753
Buena Vista Lake basin, crest-stage stations in-----	996	above Sutter Creek, near Ione-----	751
Burney Creek near Burney-----	777	Dry Creek (tributary to Putah Creek) near Middletown-----	991
Burns Creek near Hornitos-----	658	Dry Creek (tributary to Pit River) near Dana-----	774
Burns Valley Creek near Clearlake Highlands-----	980	Dry Creek (tributary to San Joaquin River) near Snelling-----	671
Butt Creek below Almanor-Butt Creek tunnel, near Prattville-----	858	Dry Creek (tributary to Yuba River) near Browns Valley-----	903
Butte Creek (Sacramento River basin) at Butte Meadows-----	828	Duncan Creek, below diversion dam, near French Meadows-----	933
near Chico-----	829	near French Meadows-----	932
Cache Creek, above Rumsey-----	987	Dutch Flat No. 1 powerplant near Dutch Flat-----	906
at Yolo-----	989	Dutch Flat No. 2 flume near Blue Canyon-----	907
near Capay-----	988	Eagle Creek at Eagleville-----	542
near Lower Lake-----	984	Eagle Lake basin, crest stage station in-----	996
North Fork near Lower Lake-----	985	discharge measurements at miscellaneous sites in-----	997
Calaveras River below New Hogan Dam, near Valley Springs-----	732	East Walker River, above Strosnider ditch, near Mason, Nev-----	510
North Fork, near San Andreas-----	730	near Bridgeport-----	509
South Fork, near San Andreas-----	729	Echo Lake conduit near Phillips-----	956
Caliente Creek above Tehachapi Creek, near Caliente-----	565	Eleanor Creek near Hetch Hetchy-----	687
		Elder Creek, at Gerber-----	811
		near Paskenta-----	810
		Esperanza Creek near Mokelumne Hill-----	996
		Fall River (tributary to Pit River) near Dana-----	775
		Fall River (tributary to Middle Fork Feather River) near Feather Falls-----	840
		Falls Creek near Hetch Hetchy-----	680
		Feather River, at Nicolaus-----	918

	Page		Page
Feather River, at Oroville-----	868	Lakes and reservoirs--Continued	
at Yuba City-----	873	Beardsley Lake near Strawberry-----	709
near Gridley-----	870	Berryessa, Lake, near Winters-----	993
East Branch of North Fork, near Rich Bar-----	996	Black Butte Reservoir near Orland-----	823
Middle Fork, near Clito-----	838	Boca Reservoir at Boca-----	534
near Merrimac-----	839	Bowman Lake near Graniteville-----	894
North Fork, at Pulga-----	866	Bridgeport Reservoir near Bridgeport-----	508
near Prattville-----	857	Britton, Lake, near Burney-----	788
South Fork, above Little Grass Valley Reservoir-----	842	Bucks Lake near Bucks Lodge-----	865
below diversion dam, near Strawberry Valley-----	845	Camanche Reservoir near Clements-----	747
below Forbestown Dam-----	850	Cherry Lake near Hetch Hetchy-----	684
below Little Grass Valley Dam-----	844	Clear Lake at Lakeport-----	983
below Ponderosa Dam-----	853	Courtright Reservoir-----	595
West Branch, near Paradise-----	867	Davis, Lake-----	874
Feather River basin, reservoirs in-----	874	Don Pedro Reservoir near La Grange-----	699
North Fork, schematic diagram of-----	855	Donnell Lake near Dardanelle-----	707
South Fork, schematic diagram of-----	841	Eleanor, Lake, near Hetch Hetchy-----	686
Florence Lake near Big Creek-----	618	Florence Lake near Big Creek-----	618
Folsom Lake near Folsom-----	972	Folsom Lake near Folsom-----	972
Foothill ditch below Terminus Dam-----	588	Frenchman Lake-----	874
Forbes Creek, North Fork, near Dutch Flat-----	926	French Meadows Reservoir near Foresthill-----	930
Fordyce Creek below Fordyce Dam, near Cisco-----	888	Hell Hole Reservoir near Meeks Bay-----	939
Forest Creek near Wilseyville-----	742	Hetch Hetchy Reservoir at Hetch Hetchy-----	681
Frenchman Lake-----	874	Huntington Lake near Big Creek-----	630
French Meadows Reservoir near Foresthill-----	930	Ice House Reservoir near Kyburz-----	965
Fresno River, near Daulton-----	652	Iron Canyon Reservoir near Big Bend-----	788
near Knowles-----	650	Isabella Reservoir near Isabella-----	557
Friant-Kern Canal at Friant-----	644	Jackson Meadows Reservoir near Sierra City-----	876
Garzas Creek near Gustine-----	996	Jenkinson Lake-----	754
Gerle Creek below Loon Lake Dam, near Meeks Bay-----	942	Kaweah, Lake, near Lemoncove-----	587
Golden Trout Creek near Cartago-----	544	Little Grass Valley Reservoir near La Porte-----	843
Granite Creek near Cattle Mountain-----	614	Loon Lake near Meeks Bay-----	941
Green Creek near Bridgeport-----	501	McCloud Reservoir near McCloud-----	788
Grindstone Creek near Elk Creek-----	819	McClure, Lake, at Exchequer-----	668
Hat Creek near Hat Creek-----	776	Mammoth Pool Reservoir near Big Creek-----	625
Hell Hole Reservoir near Meeks Bay-----	939	Melones Reservoir at Melones Dam-----	721
Helms Creek below Courtright Dam-----	594	Millerton Lake at Friant-----	645
Hetch Hetchy Reservoir at Hetch Hetchy-----	681	New Camp Far West Reservoir near Wheatland-----	916
Highland Creek (Sacramento River basin) above Highland		New Hogan Reservoir near Valley Springs-----	731
Creek Dam-----	978	Pardee Reservoir near Valley Springs-----	746
below Highland Creek Dam-----	979	Pine Flat Reservoir near Piedra-----	607
Highland Creek (San Joaquin River basin) below Spicer		Prosser Creek Reservoir near Boca-----	529
Meadows Reservoir-----	712	Pyramid Lake near Nixon, Nev-----	520
Honey Lake basin, discharge measurements at miscellaneous		Redinger Lake near Auberry-----	635
sites in-----	997	Rollins Reservoir near Colfax-----	912
Horse Creek at Little Valley, near Pittville-----	773	Salt Springs Reservoir near West Point-----	737
Huntington Lake near Big Creek-----	630	Shasta Lake near Redding-----	789
Huntington-Shaver Conduit outlet near Shaver Lake-----	633	Shaver Lake near Big Creek-----	634
Hydrologic conditions-----	497	Sly Creek Reservoir near Strawberry Valley-----	847
Ice House Reservoir near Kyburz-----	965	Spaulding, Lake, near Emigrant Gap-----	889
Indian Creek, near Crescent Mills-----	862	Success, Lake, near Success-----	575
near Boulder Creek Guard Station near Taylorsville-----	859	Tahoe, Lake, at Tahoe City-----	524
near Taylorsville-----	861	Thomas A. Edison, Lake, near Big Creek-----	621
Iron Canyon Creek below Iron Canyon Dam, near Big Bend-----	781	Topaz Reservoir near Topaz-----	514
Iron Canyon Reservoir near Big Bend-----	788	Tulloch Reservoir near Knights Ferry-----	723
Isabella Reservoir near Isabella-----	557	Union Valley Reservoir near Riverton-----	964
Jackass Creek near Bass Lake-----	623	Whiskeytown Lake near Igo-----	794
Jackson Meadows Reservoir near Sierra City-----	876	Wishon Reservoir-----	595
James B. Black Powerplant near Big Bend-----	780	Lemoncove ditch below Terminus Dam-----	586
Jenkinson Lake, contents of-----	754	Lily Creek near Pinecrest-----	693
Jesus Maria Creek near Mokelumne Hill-----	996	Little Grass Valley Reservoir near La Porte-----	843
Judge Francis Carr powerplant near French Gulch-----	972	Little Grizzly Creek near Genesee-----	860
Kaweah River, at Three Rivers-----	584	Little Kern River near Quaking Aspen Camp-----	546
below Terminus Dam-----	589	Little Last Chance Creek near Chilcoot-----	836
East Fork, near Three Rivers-----	582	Little Stony Creek above East Park Reservoir, near Lodoga-----	818
Marble Fork, at Potwisha Camp-----	579	Little Truckee River, above Boca Reservoir, near Boca-----	533
Middle Fork, near Potwisha Camp-----	577	at Boca-----	535
Middle Fork, tributary near Hammond-----	581	near Hobart Mills-----	531
North Fork, at Kaweah-----	996	Little Walker River near Bridgeport-----	511
South Fork, at Three Rivers-----	585	Long Canyon Creek near French Meadows-----	949
Kelsey Creek near Kelseyville-----	982	Loon Lake near Meeks Bay-----	941
Kelso Creek near Weldon-----	556	Los Gatos Creek (Tulare Lake basin) above Nunez Canyon,	
Kern River, at Kernville-----	552	near Coalinga-----	610
below Isabella Dam-----	558	below Jacalitos Creek, near Coalinga-----	996
near Bakersfield-----	561	Lost Creek, above Sly Creek Reservoir-----	846
near Democrat Springs-----	559	near Clipper Mills-----	849
near Kernville-----	547	Lower Twin Lake near Bridgeport-----	503
near Quaking Aspen Camp-----	545	McCloud-Iron Canyon diversion tunnel near McCloud-----	784
South Fork, near Olancha-----	554	McCloud Reservoir near McCloud-----	788
near Onyx-----	555	McCloud River, above Shasta Lake-----	787
Kings River above North Fork, near Trimmer-----	592	at Ah-Di-Na, near McCloud-----	786
below North Fork, near Trimmer-----	604	below McCloud Dam, near McCloud-----	785
below Pine Flat Dam-----	608	near McCloud-----	783
North Fork, above Dinky Creek, at Balch Camp-----	601	McCloud River basin, reservoirs in-----	788
below Dinky Creek, near Balch Camp-----	603	schematic diagram of-----	765
below Meadow Brook-----	593	Maclure Creek below Maclure Glacier, near Tuolumne Meadows-----	678
near Cliff Camp-----	596	Madera Canal at Friant-----	643
South Fork, near Cedar Grove-----	996	Mammoth Pool Reservoir near Big Creek-----	625
Kings River basin, schematic diagram of-----	591	Mariposa Creek near Catheys Valley-----	659
Lake Valley Canal near Emigrant Gap-----	925	Marsh Creek near Byron-----	762
Lakes and reservoirs:		Martins Creek near Truckee-----	527
Almanor, Lake, at Prattville-----	856	Maxwell Creek at Coulterville-----	667
Antelope Lake-----	874	Melones Reservoir at Melones Dam-----	721
Bass Lake near Bass Lake-----	639	Merced River, at Happy Isles Bridge, near Yosemite-----	662

	Page		Page
Merced River, at Pohono Bridge, near Yosemite-----	663	Precipitation--Continued	
at Shaffer Bridge, near Cressey-----	670	Picayune Creek near Coarsegold-----	651
below Merced Falls Dam, near Snelling-----	669	Picket Pen Creek near Kyburz-----	963
near Briceburg-----	666	Salmon Creek tributary B near Fairview-----	549
near Stevinson-----	672	Shingle Creek near Shingletown-----	799
South Fork, at Wawona-----	664	Wagon Wheel Creek near Reward-----	562
near El Portal-----	665	Willow Creek tributary near Susanville-----	540
Merced River Slough near Newman-----	673	Prosser Creek near Boca-----	530
Miami Creek near Oakhurst-----	649	Prosser Creek Reservoir near Boca-----	529
Middle Tuolumne River at Oakland Recreation Camp-----	692	Putah Creek, near Guenoc-----	992
Middle Yuba River, above Oregon Creek, near North San Juan-----	880	near Winters-----	994
below Jackson Meadows Dam, near Sierra City-----	877	Pyramid Lake near Nixon, Nev-----	520
near Camptonville-----	879	Pyramid Creek near Phillips-----	957
Mill Creek (Honey Lake basin) at Milford-----	538	Red Bank Creek at Rawson Road bridge, near Red Bluff-----	808
Mill Creek (Sacramento River basin) near Los Molinos-----	812	Red Bank Creek near Red Bluff-----	807
Mill Creek (Tulare Lake basin) near Piedra-----	609	Redinger Lake near Auberry-----	635
Mill Creek (Sacramento River basin) near Quincy-----	863	Reservoirs. See Lakes and reservoirs.	
Millerton Lake at Friant-----	645	Robbs Peak powerplant near Kyburz-----	943
Milton-Bowman tunnel outlet near Graniteville-----	878	Robinson Creek at Twin Lakes outlet, near Bridgeport-----	504
Miners Ranch Canal below Ponderosa Dam, near Forbestown-----	851	Rock Creek at Dinkey Creek-----	602
Miscellaneous measurements-----	997	Rollins Reservoir near Colfax-----	912
Modesto Canal near La Grange-----	701	Rubicon River, at Rubicon Springs, near Meeks Bay-----	937
Mokelumne River, at Woodbridge-----	750	below Hell Hole Reservoir, near Meeks Bay-----	940
below Camanche Dam-----	748	near Foresthill-----	950
Middle Fork, at West Point-----	743	South Fork, below Gerle Creek, near Georgetown-----	944
near Mokelumne Hill-----	745	Rubicon River basin, schematic diagram of-----	929
North Fork, below Salt Springs Dam-----	739	Rubicon-Rockbound tunnel near Meeks Bay-----	936
South Fork, near West Point-----	744	Sacramento River, at Butte City-----	826
Mokelumne River basin, schematic diagram of-----	736	at Colusa-----	827
Mono Creek below Lake Thomas A. Edison-----	622	at Delta-----	764
Morrison Creek near Sacramento-----	760	at Keswick-----	790
Mud Creek near Chico-----	817	at Knights Landing-----	835
Murray Creek near San Andreas-----	996	at Sacramento-----	976
New Camp Far West Reservoir near Wheatland-----	916	at Verona-----	919
New Hogan Reservoir near Valley Springs-----	731	below Wilkins Slough, near Crimes-----	831
North Fork Long Canyon Creek diversion tunnel near		near Mount Shasta-----	763
Volcanoville-----	948	near Red Bluff-----	806
North Honcut Creek near Bangor-----	871	Sacramento River basin, crest-stage stations in-----	996
North Shittail Creek near Dutch Flat-----	927	discharge measurements at miscellaneous sites in-----	998
North Yuba River, below New Bullards Bar Dam, near North		Sacramento Weir spill to Yolo Bypass, near Sacramento-----	920
San Juan-----	886	Sagehen Creek near Truckee-----	532
below Goodyears Bar-----	882	Salmon Creek tributary B near Fairview-----	549
Oakdale Canal near Knights Ferry-----	725	Salmon Creek tributary C near Fairview-----	550
Onion Creek near Soda Springs-----	924	Salmon Creek tributary E near Fairview-----	551
Onion Creek tributary No. 1 near Soda Springs-----	923	Salt Slough near Los Banos-----	660
Onion Creek tributary No. 2 near Soda Springs-----	922	Salt Springs Reservoir near West Point-----	737
Onion Creek tributary No. 3 near Soda Springs-----	921	San Antonio Creek near San Andreas-----	996
Oregon Creek near North San Juan-----	881	San Domingo Creek near San Andreas-----	996
Orestimba Creek near Newman-----	675	San Emigdio Creek at San Emigdio Ranchhouse-----	563
Oroville-Wyandotte Canal near Clipper Mills-----	848	San Joaquin River, above Shakeflat Creek, near Big Creek-----	626
Pacific Gas & Electric Co. conduit No. 3 near Bass Lake-----	639	above Willow Creek, near Auberry-----	636
Panoche Creek below Silver Creek, near Panoche-----	648	at Fremont Ford Bridge-----	661
Pardee Reservoir near Valley Springs-----	746	at Miller Crossing-----	613
Partial record stations, discharge at-----	996	below Friant-----	646
Pastoria Creek near Lebec-----	564	below Kerckhoff powerhouse, near Prather-----	642
Paynes Creek near Red Bluff-----	996	near Newman-----	674
Philadelphia Canal near Strawberry-----	718	near Vernalis-----	728
Picayune Creek near Coarsegold-----	651	North Fork, below Iron Creek-----	612
Picket Pen Creek near Kyburz-----	963	South Fork, near Florence Lake-----	619
Pilot Creek, above Stumpy Meadows Reservoir-----	945	San Joaquin River basin, crest-stage stations in-----	996
below Mutton Canyon, near Georgetown-----	946	discharge measurements at miscellaneous sites in-----	997
Pine Creek near Westwood-----	996	schematic diagram of-----	611
Pine Flat Reservoir near Piedra-----	607	Santiago Creek near Maricopa-----	996
Pioneer ditch below Success Dam-----	574	Seigler Creek at Lower Lake-----	981
Pit River, at Big Bend-----	779	Shasta Lake near Redding-----	789
below Pit No. 4 Dam-----	778	Shaver Lake near Big Creek-----	634
near Alturas-----	768	Shingle Creek near Shingletown-----	799
near Bieber-----	772	Silver Creek (Carson River basin) below Pennsylvania	
near Canby-----	769	Creek, near Markleeville-----	516
near Lookout-----	770	Silver Creek (American River basin), below Camino	
near Montgomery Creek-----	782	diversion dam-----	968
North Fork, near Alturas-----	766	South Fork, near Ice House-----	967
South Fork, near Likely-----	767	Silver Lake Outlet near Kirkwood-----	958
Pit River basin, reservoirs in-----	788	Slate Creek below diversion dam, near Strawberry Valley-----	884
schematic diagram of-----	765	Slate Creek tunnel near Strawberry Valley-----	883
Pitman Creek below Tamarack Creek-----	632	Sly Creek Reservoir near Strawberry Valley-----	847
Pleasants Creek near Winters-----	995	South Cow Creek near Millville-----	797
Poorman Creek near Washington-----	899	South Diversion Canal near Orland-----	822
Poso Creek near Oildale-----	568	South Fork Long Canyon Creek diversion tunnel near	
Precipitation:		Volcanoville-----	947
Del Puerto Creek tributary No. 1 near Patterson-----	676	South Honcut Creek near Bangor-----	872
Dry Creek tributary near Roseville-----	974	South San Joaquin Canal near Knights Ferry-----	724
Mill Creek at Milford-----	538	South Yuba Canal near Emigrant Gap-----	892
Mill Creek near Quincy-----	863	South Yuba River, at Jones Bar, near Grass Valley-----	900

	Page		Page
South Yuba River, at Langs Crossing, near Emigrant Gap-----	893	Tulare Lake basin, reservoirs in-----	595
near Cisco-----	887	Tule River, below Success Dam-----	576
near Washington-----	898	near Springville-----	572
Spanish Creek above Blackhawk Creek, at Keddle-----	864	North Fork, at Springville-----	571
Spring Creek powerplant at Keswick-----	793	of Middle Fork, near Springville-----	569
Squaw Creek above Shasta Lake-----	774	South Fork, near Success-----	573
Stanislaus River, at Ripon-----	727	Tulloch Reservoir near Knights Ferry-----	723
below Goodwin Dam, near Knights Ferry-----	726	Tuolumne Canal near Long Barn-----	719
below Melones powerhouse, near Sonora-----	722	Tuolumne River, above La Grange Dam, near La Grange-----	700
near Hathaway Pines-----	715	below Early Intake, near Mather-----	683
Clark Fork, near Dardanelle-----	706	at Modesto-----	703
Middle Fork, at Hells Half Acre Bridge-----	708	near Hetch Hetchy-----	682
at Kennedy Meadows near Dardanelle-----	705	North Fork, above Dyer Creek, near Tuolumne-----	996
below Beardsley Dam-----	710	near Long Barn-----	697
North Fork, below Ganns damsite, near Big Meadow-----	713	South Fork, near Oakland Recreation Camp-----	691
below Silver Creek-----	711	Tuolumne River basin, schematic diagram of-----	679
near Avery-----	714	Turlock Canal near La Grange-----	702
South Fork, at Strawberry-----	717	Twin Lakes Outlet near Kirkwood-----	959
near Long Barn-----	720	Union Valley Reservation near Riverton-----	964
Stanislaus River basin, schematic diagram of-----	704	Upper Truckee River near Meyers-----	521
Stone Corral Creek near Sites-----	834	Upper Twin Lake near Bridgeport-----	502
Stony Creek, below Black Butte Dam, near Orland-----	824	Virginia Creek near Bridgeport-----	500
near Fruto-----	820	Wagonwheel Creek near Reward-----	562
near Hamilton City-----	825	Walker Creek at Artois-----	833
North Fork, near Newville-----	821	Ward tunnel intake at Florence Lake-----	615
Sucker Run near Forbestown-----	854	Ward tunnel outlet at Huntington Lake-----	627
Susan River at Susanville-----	539	West Walker River, at Hoyer Bridge, near Wellington, Nev-----	515
Sutter Creek near Sutter Creek-----	752	below Little Walker River, near Coleville-----	512
Swager Creek near Bridgeport-----	506	near Coleville-----	513
Sycamore Creek above Pine Flat Reservoir, near Trimmer-----	606	Whiskeytown Lake near Igo-----	794
Teakettle Creek at site No. 3, near Patterson Mountain-----	597	Willow Creek (Honey Lake basin) near Susanville-----	541
Teakettle Creek tributary No. 1 near Patterson Mountain-----	600	Willow Creek (Sacramento River basin), South Fork, near	
Teakettle Creek tributary No. 2 near Patterson Mountain-----	598	Fruto-----	832
Teakettle Creek tributary No. 2A near Patterson		Willow Creek (tributary to San Joaquin River) at Mouth,	
Mountain-----	599	near Auberry-----	641
Tehachapi Creek near Tehachapi-----	566	North Fork, near Bass Lake-----	640
Terms and abbreviations, definition of-----	485	near Sugar Pine-----	637
Thomes Creek at Paskenta-----	813	Willow Creek tributary near Susanville-----	540
Tiger Creek powerhouse conduit below Salt Springs Dam-----	738	Wishon Reservoir, contents of-----	595
Topaz Reservoir near Topaz-----	514	Woodbridge Canal at Woodbridge-----	749
Trout Creek near Tahoe Valley-----	523	Woods Creek near Jacksonville-----	698
Truckee River, at Farad-----	536	Yolo Bypass near Woodland-----	990
at Reno, Nev-----	537	Yuba River, at Englebright Dam-----	901
at Tahoe City-----	525	near Marysville-----	904
Tulare Lake basin, crest-stage stations in-----	996	Yuba River basin, schematic diagram of-----	875
discharge measurements at miscellaneous sites in-----	997	Zapato Chino Creek near Avenal-----	996

