

Library Copy  
U. S. Geological Survey  
Water Resources Division  
Sacramento, California

# **Water Resources Data for California**

## **Water Year 1977**

Volume 1. Colorado River Basin, Southern Great Basin  
from Mexican Border to Mono Lake Basin,  
and Pacific Slope Basins from Tijuana River  
to Santa Maria River



**U.S. GEOLOGICAL SURVEY WATER-DATA REPORT CA-77-1**

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

# CALENDAR FOR WATER YEAR 1977

1 9 7 6

## O C T O B E R

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

## N O V E M B E R

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

## D E C E M B E R

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

1 9 7 7

## J A N U A R Y

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

## F E B R U A R Y

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

## M A R C H

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

## A P R I L

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

## M A Y

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

## J U N E

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

## J U L Y

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

## A U G U S T

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

## S E P T E M B E R

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

# **Water Resources Data for California**

## **Water Year 1977**

Volume 1. Colorado River Basin, Southern Great Basin  
from Mexican Border to Mono Lake Basin,  
and Pacific Slope Basins from Tijuana River  
to Santa Maria River



**U.S. GEOLOGICAL SURVEY WATER-DATA REPORT CA-77-1**

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

UNITED STATES DEPARTMENT OF THE INTERIOR

CECIL D. ANDRUS, Secretary

GEOLOGICAL SURVEY

H. William Menard, Director

For information on the water program in California write to  
District Chief, Water Resources Division  
U.S. Geological Survey  
855 Oak Grove Avenue  
Menlo Park, California 94025

1978



## PREFACE

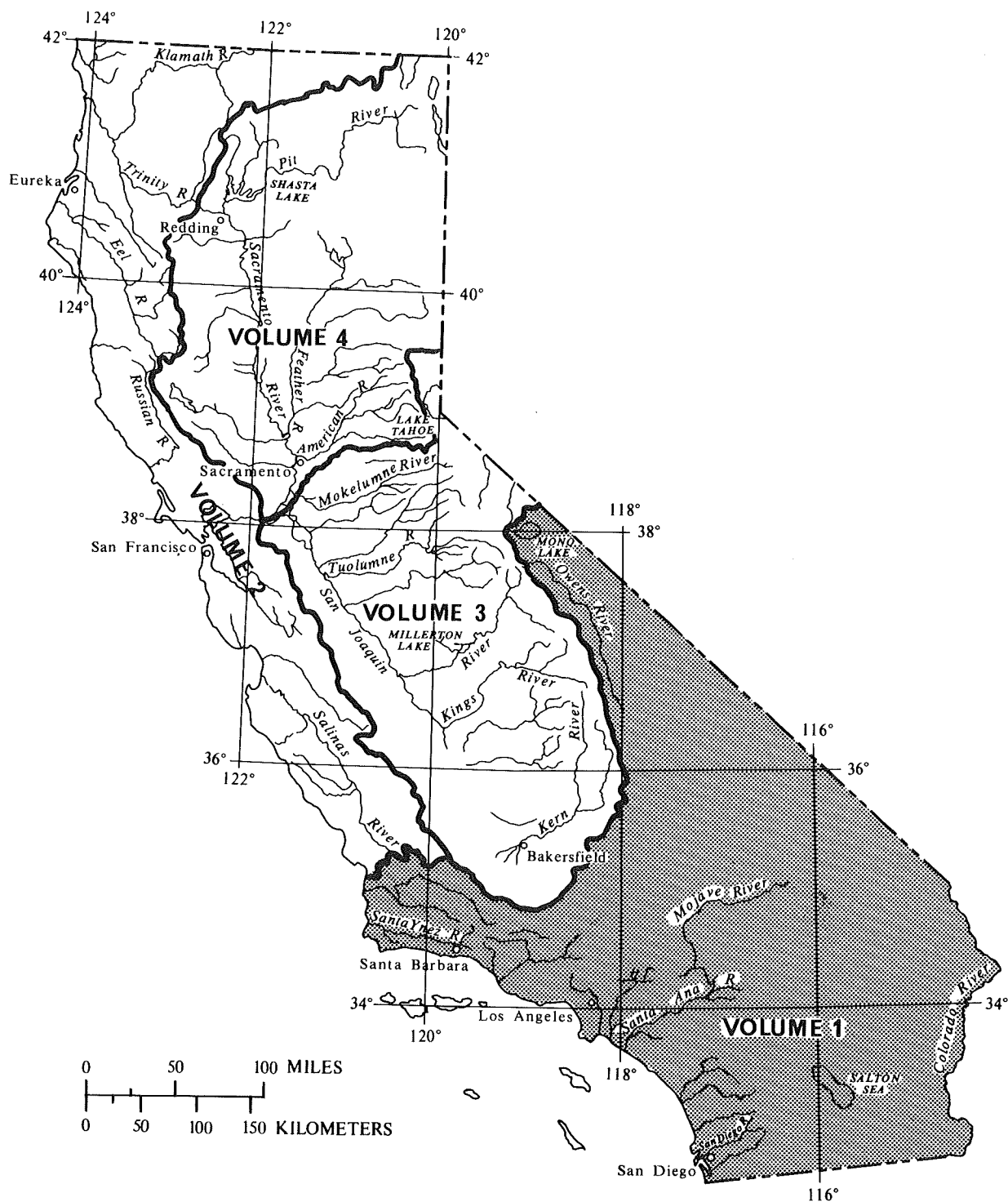
This report was prepared by personnel of the California District of the Water Resources Division, U.S. Geological Survey, under the supervision of Lee R. Peterson, succeeded by Richard M. Bloyd, District Chief, and W. H. Robinson, Regional Hydrologist, Western Region. It was done in cooperation with the California Department of Water Resources and other agencies.

This report is one of a series issued by State. General direction for the series is by J. S. Cragwall, Jr., Chief Hydrologist, and G. W. Whetstone, Assistant Chief Hydrologist for Scientific Publications and Data Management.

Data for California are in four volumes as follows:

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

<b>BIBLIOGRAPHIC DATA SHEET</b>		1. Report No. USGS/WRD/HD-78/076	2.	3. Recipient's Accession No.	
4. Title and Subtitle Water Resources Data for California Water Year 1977 Volume 1. Colorado River Basin, Southern Great Basin from Mexican Border to Mono Lake Basin, and Pacific Slope Basins from Tijuana River to Santa Maria River				5. Report Date November 1978	
7. Author(s) U.S. Geological Survey				8. Performing Organization Rept. No. USGS-WDR-CA-77-1	
9. Performing Organization Name and Address U.S. Geological Survey, Water Resources Division California District 345 Middlefield Road Menlo Park, Calif. 94025				10. Project/Task/Work Unit No.	
12. Sponsoring Organization Name and Address U.S. Geological Survey, Water Resources Division California District 345 Middlefield Road Menlo Park, Calif. 94025				11. Contract/Grant No.	
				13. Type of Report & Period Covered Annual--Oct. 1, 1976 to Sept. 30, 1977	
15. Supplementary Notes Prepared in cooperation with the California Department of Water Resources and other agencies				14.	
16. Abstracts  Volume 1 of water resources data for the 1977 water year for California consists of records of stage, discharge, and water quality of streams; stage, contents, and water quality in lakes and reservoirs; and water levels in wells. This report contains discharge records for 234 gaging stations; stage-only record for 3 gaging stations; stage and contents for 18 lakes and reservoirs; water quality for 72 stations and 2 wells; water levels for 21 observation wells. Also included are 13 crest-stage partial-record stations. These data represent that part of the National Water Data System operated by the U.S. Geological Survey and cooperating State and Federal agencies in California.					
17. Key Words and Document Analysis. 17a. Descriptors  *California, *Hydrologic data, *Surface water, *Water quality, *Ground water, Flow rate, Gaging stations, Lakes, Reservoirs, Chemical analyses, Sediment, Water temperatures, Sampling sites, Water levels, Water analyses.					
17b. Identifiers Open-Ended Terms					
17c. COSATI Field/Group					
18. Availability Statement No restriction on distribution This report may be purchased from: National Technical Information Service Springfield, VA 22161				19. Security Class (This Report) UNCLASSIFIED	
				20. Security Class (This Page) UNCLASSIFIED	
				21. No. of Pages 651	
				22. Price	



Area covered by volumes in the annual series on water-resources data for California. Area covered by this volume is shaded.

WATER RESOURCES DIVISION

Laguna Niguel Subdistrict

Darwin Knochenmus, Chief

This report was prepared by:

Robert J. Longfield, Chief, Hydrologic Data Section  
Timothy P. Landis, Chief, Surface Water Unit  
Charles E. Lamb, Chief, Ground Water Unit  
Michael T. Butcher, Chief, Santa Ana Field Group  
John A. Singer, Chief, Santa Barbara Field Office  
Harris E. Skjold, Chief, South Coast Field Group  
Mary J. Mermod, Hydrologic Technician  
Julia A. Schulenburg, Hydrologic Technician  
Kay L. Spiegl, Hydrologic Technician

Assisted by:

Gary E. Barbato, Hydrologic Technician  
Robert L. Blazs, Hydrologist  
James C. Bowers, Hydrologist  
Frank A. Carson, Hydrologic Technician  
Gary D. Cronk, Hydrologist  
Daniel J. Downing, Hydrologic Technician  
Howard R. Frisbie, Supervisory Hydrologic Technician  
Donald T. Hartley, Hydrologic Technician  
David R. Harvey, Hydrologic Technician  
Christopher W. Holmes, Hydrologic Technician  
John J. Janssen, Hydrologic Technician  
Thomas G. Kane, Hydrologic Technician  
Floyd E. Lee, Hydrologic Technician  
Christopher E. McConaughy, Hydrologist  
Michael C. McFadden, Hydrologic Technician  
Dan L. Patridge, Hydrologic Technician  
Elmer G. Pearson, Hydrologist  
Gladys M. Pigage, Hydrologic Technician  
Suzanne C. Pompe, Hydrologic Technician  
Lee A. Price, Hydrologic Technician  
Nancy A. Reckinger, Clerk Typist  
Jacob Sarkin, Hydrologic Technician  
Olivia R. Simpson, Clerk Typist  
James L. Van Maanen, Hydrologic Technician

## CONTENTS

---

Preface.....	Page III
List of surface-water and water-quality stations, in downstream order, for which records are published.....	IX
Introduction.....	1
Cooperation.....	2
Hydrologic conditions.....	3
Definition of terms.....	3
Downstream order and station number.....	12
Numbering system for wells and miscellaneous sites.....	13
Local well numbers.....	13
Special networks and programs.....	15
Explanation of stage and water-discharge records.....	16
Collection and computation of data.....	16
Accuracy of field data and computed results.....	19
Other data available.....	19
Records of discharge collected by agencies other than the Geological Survey.....	20
Explanation of water-quality records.....	20
Collection and examination of data.....	20
Water analysis.....	20
Water temperature.....	21
Sediment.....	21
Turbidity.....	22
Explanation of ground-water-level records.....	23
Collection of the data.....	23
Publications of techniques of water-resources investigations.....	24
Gaging-station and water-quality records.....	26
Discharge at partial-record stations .....	623
Crest-stage partial-record stations.....	623
Ground-water records.....	626
Ground-water levels and quality of ground water listed by county.....	626
Index.....	635

## ILLUSTRATIONS

	Page
Figure 1. Map of California showing runoff for the current water year....	4
2. System for numbering wells and miscellaneous sites (latitude and longitude).....	13
3. Local well-numbering system.....	14
4. Schematic diagram showing gaging stations and water-quality stations on streams, diversions, and return flows between Imperial Dam and the southerly international boundary.....	128
5-6. Schematic diagrams showing diversions and storage:	
5. Santa Ana River basin.....	331
6. San Gabriel and Los Angeles River basins.....	442

## TABLE

Table 1. Conversion of turbidity values, measured by Hach Turbidimeters Model 1860 or 2100, from parts per million or milligrams per liter of silica to Jackson turbidity units.....	22
--	----

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

IX

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

	Page
<u>COLORADO RIVER BASIN</u>	
<u>COLORADO RIVER:</u>	
Colorado River below Hoover Dam, Ariz.-Nev. (dcbs).....	26
Colorado River below Davis Dam, Ariz.-Nev. (dc).....	33
Colorado River at Needles (d).....	35
Colorado River near Topock, Ariz. (dc).....	36
<u>LAKE HAVASU:</u>	
<u>DIVERSION FROM LAKE HAVASU</u>	
Colorado River aqueduct near Parker Dam, Ariz.-Calif. (dc).....	39
Colorado River aqueduct near San Jacinto (cbs).....	41
Lake Havasu near Parker Dam, Ariz.-Calif. (l).....	52
Colorado River below Parker Dam, Ariz.-Calif. (dc).....	54
<u>TRIBUTARIES AND DIVERSIONS BETWEEN PARKER DAM AND PALO VERDE DAM</u>	
Palo Verde Canal near Blythe (dc).....	60
Colorado River at Palo Verde Dam, Ariz.-Calif. (d).....	65
Palo Verde Irrigation District Olive Lake drain near Blythe (c).....	66
Palo Verde Irrigation District Outfall drain near Palo Verde (c).....	68
Palo Verde Irrigation District Anderson drain near Palo Verde (c).....	73
Colorado River above Imperial Dam, Ariz.-Calif. (dcbt).....	74
Colorado River below Laguna Dam, Ariz.-Calif. (dc).....	91
Colorado River at northerly international boundary, above Morelos Dam, near Andrade (dcb).....	95
<u>DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM</u>	
Gila Gravity Main Canal at Imperial Dam, Ariz.-Calif. (dct).....	111
All-American Canal near Imperial Dam, Ariz.-Calif. (d).....	114
Pilot Knob powerplant and wasteway near Pilot Knob (d).....	115
All-American Canal below Pilot Knob wasteway (d).....	116
All-American Canal below Drop 1 near Calexico (c).....	117
Return surface flows below Imperial Dam, Ariz.-Calif. (d).....	122
<u>THE GREAT BASIN</u>	
<u>PANAMINT VALLEY</u>	
Darwin Creek near Darwin (d).....	129
<u>DEATH VALLEY</u>	
Salt Creek near Stovepipe Wells (d).....	130
Amargosa River at Tecopa (d).....	131
<u>BRISTOL LAKE BASIN</u>	
Caruthers Creek near Ivanpah (d).....	132
<u>SALTON SEA BASIN</u>	
Salton Sea near Westmorland (l).....	133
Inflow to Salton Sea (d).....	133
Salt Creek near Mecca (d).....	134
Alamo River at Drop No. 9, near Holtville (c).....	135
Alamo River at Drop No. 3, near Calipatria (c).....	143
Alamo River near Niland (dc).....	148
New River at international boundary, at Calexico (cbts).....	155
New River at Drop No. 4, at Brawley (c).....	170
New River near Westmorland (dc).....	177
San Felipe Creek near Julian (d).....	185
Coyote Creek near Borrego Springs (d).....	186
Borrego Palm Creek near Borrego Springs (d).....	187
<u>Carrizo Creek:</u>	
Vallecito Creek near Julian (d).....	188
San Felipe Creek near Westmorland (d).....	189
Whitewater River at White Water (dc).....	190
San Gorgonio River near Banning (d).....	192
San Gorgonio River near White Water (d).....	194
Snow Creek near White Water (d).....	195
Mission Creek near Desert Hot Springs (d).....	196
Chino Canyon Creek near Palm Springs (d).....	197

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

	Page
<u>THE GREAT BASIN--Continued</u>	
<u>SALTON SEA BASIN--Continued</u>	
New River:	
Morongo Wash:	
Tahquitz Creek near Palm Springs (d).....	198
Palm Canyon Creek near Palm Springs (d).....	199
Andreas Creek near Palm Springs (d).....	200
Deep Creek near Palm Desert (d).....	201
Whitewater River at Indio (d).....	202
Whitewater River near Mecca (d).....	203
Wasteway No. 1 near Mecca (d).....	204
<u>MOJAVE RIVER BASIN</u>	
Deep Creek (head of Mojave River) near Hesperia (d).....	205
West Fork Mojave River near Hesperia (d).....	206
Mojave River below Forks Reservoir, near Hesperia (c).....	207
Mojave River at lower narrows, near Victorville (dcbts).....	208
Mojave River near Hodge (d).....	220
Mojave River at Barstow (d).....	221
Mojave River at Afton (d).....	222
<u>ANTELOPE VALLEY</u>	
Big Rock Creek near Valyermo (dt).....	223
Little Rock Creek near Little Rock (d).....	225
Oak Creek near Mojave (d).....	226
<u>KOEHN LAKE BASIN</u>	
Pine Tree Creek near Mojave (d).....	227
<u>OWENS LAKE BASIN</u>	
Owens River:	
Convict Creek near Mammoth Lakes (d).....	228
Rock Creek at Little Round Valley, near Bishop (d).....	230
Pine Creek at division box, near Bishop (d).....	231
Silver Canyon Creek near Laws (d).....	232
Bishop Creek below powerplant No. 6, near Bishop (d).....	233
Big Pine Creek near Big Pine (d).....	234
Owens River below Tinemaha Reservoir, near Big Pine (dcbts).....	236
Independence Creek below Pinyon Creek, near Independence (d).....	248
Owens River at Keeler Bridge, near Lone Pine (d).....	249
Cottonwood Creek near Olancho (d).....	250
<u>MONO LAKE BASIN</u>	
Mono Lake near Mono Lake (l).....	252
Mill Creek below Lundy Lake, near Mono Lake (d).....	253
Rush Creek below Agnew Lake, near June Lake (d).....	254
Rush Creek above Grant Lake, near June Lake (d).....	255
Lee Vining Creek near Lee Vining (d).....	256
<u>PACIFIC SLOPE BASINS IN CALIFORNIA</u>	
<u>TIJUANA RIVER BASIN</u>	
Cottonwood Creek (head of Tijuana River) above Tecate Creek, near Dulzura (d).....	257
Tecate Creek:	
Campo Creek near Campo (d).....	258
Tijuana River near Dulzura (d).....	259
Rodriguez Reservoir at Rodriguez Dam, Baja California, Mexico (l)....	260
Tijuana River near Nestor (ds).....	261
<u>OTAY RIVER BASIN</u>	
Jamul Creek (head of Otay River) near Jamul (d).....	264
Lower Otay Reservoir near Chula Vista (l).....	265
<u>SWEETWATER RIVER BASIN</u>	
Sweetwater River near Descanso (d).....	266
Sweetwater Reservoir near National City (l).....	268
<u>SAN DIEGO RIVER BASIN</u>	
El Capitan Reservoir near Lakeside (l).....	269
San Vicente Reservoir near Lakeside (l).....	270
San Diego River near Santee (dts).....	271



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

XI

	Page
<u>PACIFIC SLOPE BASINS IN CALIFORNIA--Continued</u>	
<u>LOS PENASQUITOS CREEK BASIN</u>	
Poway Creek (head of Los Penasquitos Creek):	
Beeler Creek at Pomerado Road, near Poway (d).....	276
Los Penasquitos Creek below Poway Creek, near Poway (d).....	277
Los Penasquitos Creek near Poway (d).....	278
<u>SAN DIEGUITO RIVER BASIN</u>	
Santa Ysabel Creek (head of San Dieguito River) near Ramona (d).....	279
Santa Ysabel Creek near San Pasqual (d).....	280
Guejito Creek near San Pasqual (d).....	281
Santa Maria Creek near Ramona (d).....	282
Lake Hodges near Escondido (1).....	283
<u>ESCONDIDO CREEK BASIN</u>	
Lake Wohlford near Escondido (1).....	284
<u>SAN LUIS REY RIVER BASIN</u>	
San Luis Rey River:	
Agua Caliente Creek near Warner Springs (d).....	285
West Fork San Luis Rey River near Warner Springs (d).....	286
Pauma Creek near Pauma Valley (d).....	287
San Luis Rey River at Monserate Narrows, near Pala (d).....	289
Keys Creek:	
Keys Creek tributary at Valley Center (d).....	290
San Luis Rey River near Bonsall (d).....	291
San Luis Rey River at Oceanside (ds).....	292
<u>SANTA MARGARITA RIVER BASIN</u>	
Temecula Creek (head of Santa Margarita River) near Aguanga (d).....	296
Temecula Creek at Vail Dam (1).....	297
Murrieta Creek at Temecula (d).....	298
Santa Margarita River near Temecula (d).....	299
Santa Margarita River near Fallbrook (dc).....	300
Santa Margarita River at Ysidora (ds).....	302
<u>LAS FLORES CREEK BASIN</u>	
Las Flores Creek near Oceanside (d).....	303
<u>SAN JUAN CREEK BASIN</u>	
San Juan Creek at San Juan Capistrano (dts).....	304
Arroyo Trabuco:	
Oso Creek at Crown Valley Parkway, near Mission Viejo (d).....	310
Arroyo Trabuco at San Juan Capistrano (dts).....	311
<u>ALISO CREEK BASIN</u>	
Aliso Creek at El Toro (d).....	317
<u>SAN DIEGO CREEK BASIN</u>	
San Diego Creek at Sand Canyon Avenue, near Irvine (dts).....	318
Peters Canyon Wash:	
El Modena-Irvine Channel near Irvine (dts).....	324
San Diego Creek at Lane Road, near Irvine (d).....	330
<u>SANTA ANA RIVER BASIN</u>	
Santa Ana River:	
Bear Creek:	
Big Bear Lake near Big Bear Lake (1).....	332
Santa Ana River near Mentone (d).....	333
Santa Ana River spreading diversion near Mentone (d).....	335
Mill Creek near Yucaipa (d).....	336
Plunge Creek near East Highlands (d).....	338
Warm Creek:	
City Creek near Highland (d).....	340
Santa Ana River at Waterman Avenue, at San Bernardino (dts).....	342
San Timoteo Creek:	
Little San Gorgonio Creek near Beaumont (d).....	348
San Timoteo Creek near Redlands (dts).....	349
Warm Creek:	
East Twin Creek near Arrowhead Springs (d).....	354
Waterman Canyon Creek near Arrowhead Springs (d).....	355

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

	Page
PACIFIC SLOPE BASINS IN CALIFORNIA--Continued	
SANTA ANA RIVER BASIN--Continued	
Warm Creek floodway at San Bernardino (d).....	356
San Bernardino Water Quality Control Plant at San Bernardino (dc)....	357
Santa Ana River at E Street, near San Bernardino (d).....	361
Warm Creek near San Bernardino (d).....	362
Meeks and Daley Canal near Colton (d).....	363
Lytle Creek near Fontana (d).....	364
Cajon Creek:	
Lone Pine Creek near Keenbrook (d).....	366
Cajon Creek below Lone Pine Creek, near Keenbrook (d).....	367
Devil Canyon Creek near San Bernardino (d).....	368
Lytle Creek at Colton (d).....	369
Santa Ana River at Mission Boulevard, at Riverside (d).....	370
Santa Ana River at MWD Crossing, near Arlington (dc).....	371
Riverside Water Quality Control Plant at Riverside Narrows, near Arlington (dc).....	375
Santa Ana River at Prado Park, near Corona (dts).....	379
San Jacinto River:	
Lake Hemet near Idyllwild (l).....	384
San Jacinto River near San Jacinto (d).....	385
Bautista Creek near Valle Vista (d).....	387
San Jacinto River at Railroad Canyon weir, near Elsinore (d).....	388
Salt Creek at Railroad Canyon Reservoir, near Elsinore (d).....	389
San Jacinto River near Elsinore (d).....	390
Temescal Creek near Corona (d).....	391
Chino Creek:	
San Antonio Creek below San Antonio Dam (d).....	392
Rialto pipeline below San Antonio Dam, near Claremont (c).....	393
Chino Creek at Schaefer Avenue, near Chino (dc).....	394
Cucamonga Creek near Mira Loma (d).....	396
Santa Ana River below Prado Dam (dc).....	397
Santa Ana River at Imperial Highway, near Anaheim (dts).....	414
Santa Ana River spreading diversion below Imperial Highway, near Anaheim (dc).....	421
Carbon Creek below Carbon Canyon Dam (d).....	424
Santa Ana River at Ball Road at Anaheim (ds).....	425
Santiago Creek at Modjeska (d).....	429
Santiago Creek at Santa Ana (ds).....	430
Santa Ana River at Santa Ana (dts).....	432
Santa Ana River at Adams Avenue, near Costa Mesa (ds).....	437
SAN GABRIEL RIVER BASIN	
East Fork San Gabriel River (head of San Gabriel River) near Camp Bonita (d).....	443
West Fork San Gabriel River at Camp Rincon (d).....	444
San Gabriel River at Azusa powerhouse, at Azusa (c).....	445
Fish Creek near Duarte (d).....	446
San Gabriel River below Santa Fe Dam, near Baldwin Park (d).....	447
Walnut Creek:	
Dalton Creek:	
San Dimas Creek below San Dimas Dam (d).....	448
San Jose Creek near El Monte (d).....	449
San Gabriel River above Whittier Narrows Dam (d).....	450
San Gabriel River at Whittier Narrows (c).....	451
San Gabriel River at Pico (d).....	452
San Gabriel River at Spring Street, near Los Alamitos (d).....	453
Coyote Creek:	
Brea Creek below Brea Dam, near Fullerton (d).....	454
Fullerton Creek below Fullerton Dam, near Brea (d).....	455
Fullerton Creek at Richman Avenue, at Fullerton (d).....	456
Coyote Creek at Los Alamitos (d).....	457

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

XIII

PACIFIC SLOPE BASINS IN CALIFORNIA--Continued	Page
<u>LOS ANGELES RIVER BASIN</u>	
Los Angeles River at Sepulveda Dam (d).....	458
Pacoima Creek near San Fernando (d).....	459
Big Tujunga Creek near Sunland (d).....	460
Big Tujunga Creek below Hansen Dam (d).....	461
Los Angeles River at Feliz Boulevard, at Los Angeles (c).....	462
Los Angeles River at Los Angeles (d).....	464
Arroyo Seco near Pasadena (d).....	465
Los Angeles River near Downey (d).....	466
Rio Hondo above Whittier Narrows Dam (d).....	467
Alhambra Wash at Klingerman Street near Montebello (d).....	468
Rio Hondo near Montebello (d).....	469
Mission Creek near Montebello (d).....	470
Rio Hondo below Whittier Narrows Dam (d).....	471
Rio Hondo near Downey (d).....	472
Los Angeles River at Long Beach (d).....	473
Los Angeles River at Willow Street Bridge, at Long Beach (cbs).....	474
<u>BALLONA CREEK BASIN</u>	
Ballona Creek near Culver City (d).....	484
<u>TOPANGA CREEK BASIN</u>	
Topanga Creek near Topanga Beach (d).....	485
<u>MALIBU CREEK BASIN</u>	
Malibu Creek at Crater Camp, near Calabasas (d).....	486
<u>CALLEGUAS CREEK BASIN</u>	
Calleguas Creek:	
Arroyo Simi near Simi (dts).....	487
Conejo Creek above Highway 101, near Camarillo (d).....	492
Calleguas Creek at Camarillo State Hospital (dts).....	493
<u>SANTA CLARA RIVER BASIN</u>	
Santa Clara River above railroad station, near Lang (d).....	499
South Fork Santa Clara River at Saugus (d).....	500
Piru Creek:	
Castaic Creek One Mile above Fish Creek, near Castaic (d).....	501
Fish Creek above Castaic Creek, near Castaic (d).....	502
Necktie Canyon Creek above Castaic Creek near Castaic (d).....	503
Elizabeth Lake Canyon Creek above Castaic Lake near Castaic (d)....	504
Castaic Lagoon Parshall flume near Castaic (d).....	505
Santa Clara River at Los Angeles-Ventura County line (dcts).....	506
Piru Creek below Thorn Meadows, near Stauffer (d).....	514
Lockwood Creek:	
Middle Fork Lockwood Creek near Stauffer (d).....	515
Lockwood Creek at Gorge, near Stauffer (d).....	516
Piru Creek below Buck Creek, near Pyramid Lake (d).....	517
Canada de Los Alamos above Pyramid Lake (d).....	518
Piru Creek above Frenchmans Flat (dc).....	519
Piru Creek above Lake Piru (dc).....	522
Lake Piru near Piru (l).....	525
Piru Creek below Santa Felicia Dam (dc).....	526
Hopper Creek near Piru (dts).....	529
Sespe Creek near Wheeler Springs (dt).....	536
Sespe Creek near Fillmore (dcts).....	539
Santa Clara River near Santa Paula (c).....	548
Santa Paula Creek near Santa Paula (dc).....	549
Saticoy diversion near Saticoy (dc).....	554
Santa Clara River at Montalvo (ds).....	557
<u>VENTURA RIVER BASIN</u>	
Matilija Creek (head of Ventura River):	
Matilija Reservoir at Matilija Hot Springs (l).....	562
Matilija Creek at Matilija Hot Springs (dc).....	563
North Fork Matilija Creek at Matilija Hot Springs (d).....	565

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

	Page
<u>PACIFIC SLOPE BASINS IN CALIFORNIA--Continued</u>	
<u>VENTURA RIVER BASIN--Continued</u>	
Ventura River near Meiners Oaks (d).....	566
San Antonio Creek at Casitas Springs (dts).....	567
Coyote Creek near Oak View (d).....	574
Santa Ana Creek near Oak View (d).....	575
Coyote Creek near Ventura (d).....	576
Ventura River near Ventura (dcts).....	577
<u>CARPINTERIA CREEK BASIN</u>	
Carpinteria Creek near Carpinteria (d).....	584
<u>FRANKLIN CREEK BASIN</u>	
Franklin Creek at Carpinteria (d).....	585
<u>MISSION CREEK BASIN</u>	
Mission Creek near Mission Street, at Santa Barbara (d).....	586
Victoria Street drain at outlet, at Santa Barbara (d).....	587
<u>ARROYO BURRO CREEK BASIN</u>	
Arroyo Burro Creek at Santa Barbara (d).....	588
Maria Ygnacio Creek at University Drive, near Goleta (d).....	589
Atascadero Creek near Goleta (d).....	590
<u>SAN JOSE CREEK BASIN</u>	
San Jose Creek near Goleta (d).....	591
San Jose Creek at Goleta (d).....	592
<u>GAVIOTA CREEK BASIN</u>	
Gaviota Creek near Gaviota (d).....	593
<u>JALAMA CREEK BASIN</u>	
Jalama Creek near Lompoc (d).....	594
<u>SANTA YNEZ RIVER BASIN</u>	
Santa Ynez River at Jameson Lake, near Montecito (1).....	595
Santa Ynez River above Gibraltar Dam, near Santa Barbara (1).....	596
Santa Ynez River below Gibraltar Dam, near Santa Barbara (d).....	597
Santa Ynez River below Los Laureles Canyon, near Santa Ynez (d).....	598
Santa Cruz Creek near Santa Ynez (d).....	599
Lake Cachuma near Santa Ynez (1).....	600
Santa Agueda Creek near Santa Ynez (d).....	601
Alamo Pintado Creek near Solvang (d).....	602
Alisal Reservoir near Solvang (1).....	603
Santa Ynez River at Solvang (d).....	604
Zaca Creek near Buellton (d).....	605
Salsipuedes Creek near Lompoc (d).....	606
Santa Ynez River at narrows, near Lompoc (d).....	607
Miguelito Creek at Lompoc (d).....	608
Santa Ynez River at Pine Canyon, near Lompoc (d).....	609
<u>SAN ANTONIO CREEK BASIN</u>	
San Antonio Creek at Los Alamos (d).....	610
San Antonio Creek near Casmalia (d).....	611
<u>SANTA MARIA RIVER BASIN</u>	
Cuyama River (head of Santa Maria River):	
Wagon Road Creek near Stauffer (d).....	612
Reyes Creek near Ventucopa (d).....	613
Cuyama River below Buckhorn Canyon, near Santa Maria (d).....	614
Alamo Creek near Nipomo (d).....	615
Huasna River near Arroyo Grande (d).....	616
Cuyama River below Twitchell Dam (d).....	617
Sisquoc River near Sisquoc (d).....	618
Tepusquet Creek near Sisquoc (d).....	619
Sisquoc River near Garey (d).....	620
Bradley ditch near Donovan Road, at Santa Maria (d).....	621
Santa Maria River at Guadalupe (d).....	622

## WATER RESOURCES DATA FOR CALIFORNIA, 1977

### Volume 1

#### INTRODUCTION

Water-resources data for the 1977 water year for California consist of records of stage, discharge, and water quality of streams; stage, contents, and water quality of lakes and reservoirs; records of water levels in selected observation wells; and selected chemical analyses of ground water. Records for a few pertinent streamflow and water-quality stations in bordering States are also included. The records were collected and computed by the Water Resources Division of the U.S. Geological Survey under the direction of Winchell Smith, Assistant District Chief for Hydrologic Data, and Leonard N. Jorgensen, Chief of the Basic Data Section. These data, a contribution to the National Water Data System, were collected by the Geological Survey and cooperating local, State, and Federal agencies in California.

Records of discharge or stage of streams and contents or stage of lakes and reservoirs were first published in a series of U.S. Geological Survey water-supply papers entitled, "Surface Water Supply of the United States." Through September 30, 1960, these water-supply papers were in an annual series and then in a 5-year series for 1961-65 and 1966-70. Records of chemical quality, water temperatures, and suspended sediment were published from 1941 to 1970 in an annual series of water-supply papers entitled, "Quality of Surface Waters of the United States." Records of ground-water levels were published from 1935 to 1974 in a series of water-supply papers entitled, "Ground-Water Levels in the United States." Water-supply papers may be consulted in the libraries of the principal cities in the United States or may be purchased from Branch of Distribution, U.S. Geological Survey, 1200 South Eads Street, Arlington, VA 22202.

For water years 1961 through 1974, streamflow data were released by the Geological Survey in annual reports on a State-boundary basis. Water-quality records for water years 1964 through 1974 were similarly released, either in separate reports or in conjunction with streamflow records. Beginning with the 1975 water year, water data for streamflow, water quality, and ground water are published as an official Survey report on a State-boundary basis. These official Survey reports carry an identification number consisting of the two-letter State abbreviation, the last two digits of the water year, and the volume number. For example, this report is identified as "U.S. Geological Survey Water-Data Report CA-77-1." Water-data reports are for sale by the National Technical Information Service, U.S. Department of Commerce, Springfield, VA 22161.

## COOPERATION

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

Antelope Valley-East Kern Water Agency, Wallace G. Spinarski, General Manager.  
California Department of Navigation and Ocean Development, Marty Mercado, Director.  
California Department of Water Resources, R. B. Robie, Director.  
Casitas Municipal Water District, Robert N. McKinney, General Manager-Chief Engineer.  
Coachella Valley County Water District, L. O. Weeks, General Manager-Chief Engineer.  
Desert Water Agency, P. G. Payne, General Manager.  
Imperial Irrigation District, Donald A. Twogood, General Manager.  
Los Angeles County Flood Control District, A. E. Bruington, Chief Engineer.  
Los Angeles Department of Water and Power, Duane L. Georgeson, Engineer, Los Angeles Aqueduct Division.  
Montecito County Water District, H. O. Neil Mendenall, General Manager-Chief Engineer.  
Orange County Environmental Management Agency, H. G. Osborne, Director.  
Orange County Water District, Neil M. Cline, Secretary-Manager.  
Riverside County Flood Control and Water Conservation District, J. W. Bryant, Chief Engineer.  
San Bernardino Valley Municipal Water District, J. A. Beaver, General Manager.  
San Diego, City of, Water Utilities, R. W. King, Director.  
San Diego, County of, Department of Sanitation and Flood Control, C. J. Houson, Director.  
Santa Barbara, City of, Department of Public Works, R. W. Puddicombe, Director.  
Santa Barbara County Flood Control and Water Conservation District, James M. Stubchaer, Flood-Control Engineer.  
Santa Barbara County Water Agency, Robert Hedlund, Board of Directors Chairman.  
Santa Maria Valley Water Conservation District, M. F. Twitchell, Secretary.  
Santa Ynez River Water Conservation District, Boyd B. Bettencourt, Secretary.  
United Water Conservation District, R. A. Smith, General Manager-Chief Engineer.  
Ventura County Flood Control District, Arthur Goulet, Director.  
Western Municipal Water District, H. A. Hicks, General Manager.

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

The following organizations aided in collecting records: Bear Valley Mutual Water Co., Metropolitan Water District of Southern California, Fontana Union Water Co., Rancho California, Southern California Edison Co., and Vista Irrigation District.

## HYDROLOGIC CONDITIONS

Runoff during the 1977 water year in the area covered by this volume was below normal to deficient for the entire year and averaged 52 percent of the 1941-70 median. Total runoff at selected sites for the 1977 water year is shown in figure 1 for all of California. Runoff in the Santa Ana River basin and coastal basins to the south and north was 50 percent of the median; runoff in the Los Angeles River basin was 70 percent of the median; runoff in the desert areas was below normal, although summer thunderstorms contributed greatly to total yearly flows.

Precipitation was erratic again this year, ranging in the deserts from 125 percent at Death Valley Junction to 50 percent at Blythe and from 80 percent in San Diego County to 70 percent in the Los Angeles area and Santa Barbara County, to a low for southern California of 40 percent in San Luis Obispo County. August storms did much to raise these precipitation figures.

A tropical storm struck the Goleta area October 1, dropping 3.5 inches (89 mm) of rain in 1 hour. Except for this early October rain, rainfall in Santa Barbara County was sparse through the month of April. A few small storm systems moved over southern California during the period October through April netting a total of 1 to 2 inches (25 to 51 mm). A rare spring storm moved into southern California May 7 and 8 resulting in storm totals of 2 inches (51 mm) in Orange County and 3 inches (76 mm) in the Los Angeles and Santa Barbara areas. This rain brought flash floods to the mountain and desert areas. Rainfall was above the median for the month of August because of tropical storm Doreen, which covered all of southern California August 16-18. Doreen's storm totals ranged from a high at Brawley of 4.8 inches (122 mm) to an average of 1 inch (25 mm) for other areas. This rainfall raised the total for August to 2.13 inches (54 mm) at Lindbergh Field in San Diego, breaking the 100-year record for this location of 1.95 inches (50 mm) in 1873.

There was a continued downward trend in ground-water levels over the entire State. Storms generally had no effect on water levels this year.

## DEFINITION OF TERMS

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

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

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

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

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

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

## WATER RESOURCES DATA FOR CALIFORNIA, 1977

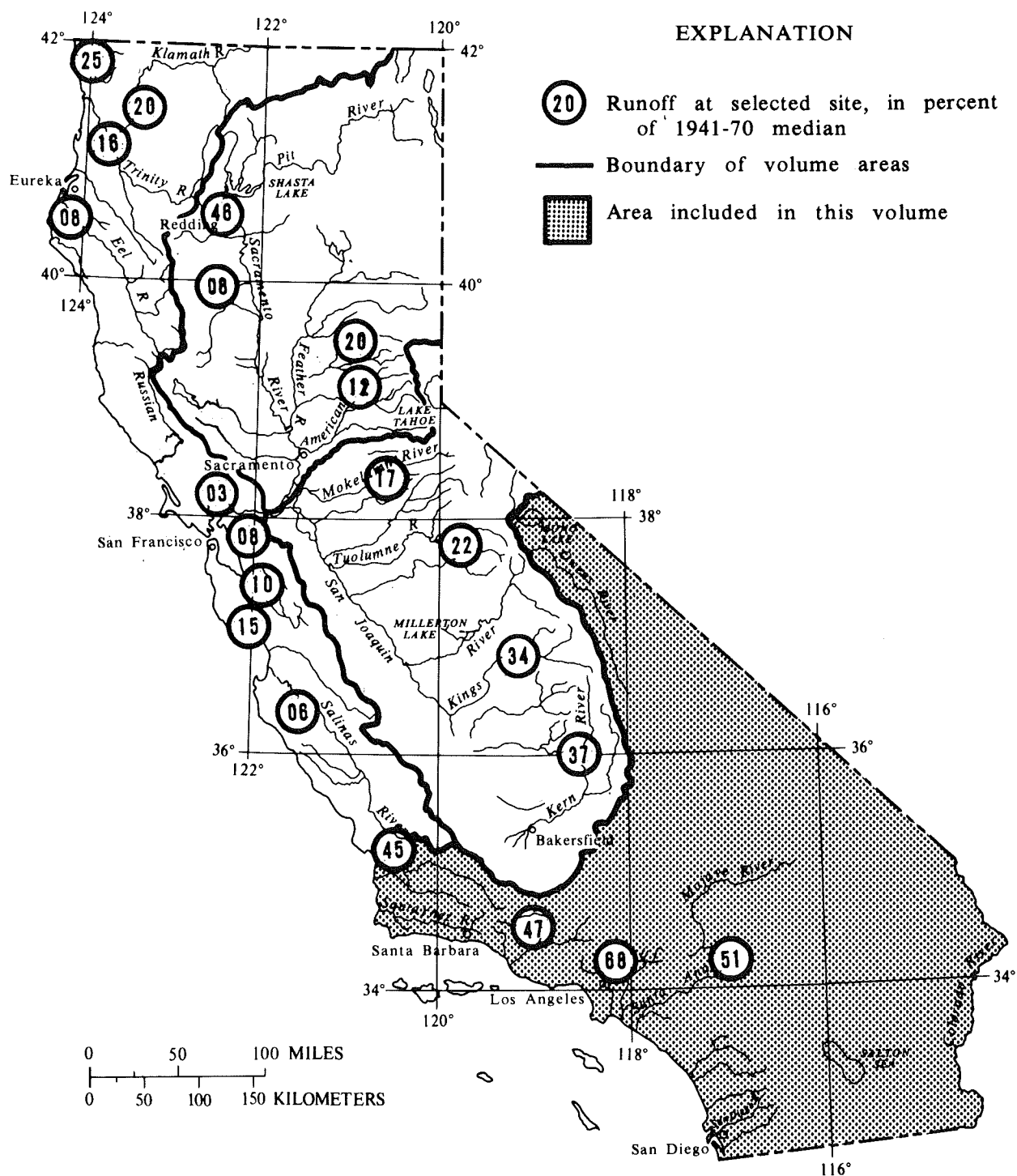


FIGURE 1.--Runoff for the current water year.



Bacteria (continued)

Total coliform bacteria are a particular group of bacteria that are used as indicators of possible sewage pollution. They are characterized as aerobic or facultative anaerobic, gram-negative, nonspore-forming, rod-shaped bacteria which ferment lactose with gas formation within 48 hours at 35°C. In the laboratory these bacteria are defined as the organisms which produce colonies within 24 hours when incubated at 35°C  $\pm$  1.0°C on M-Endo medium (nutrient medium for bacterial growth). Their concentrations are expressed a number of colonies per 100 mL of sample.

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

Fecal streptococcal bacteria are bacteria found also in intestines of warm-blooded animals. Their presence in water is considered to verify fecal pollution. They are characterized as gram-positive, cocci bacteria which are capable of growth in brain-heart infusion broth. In the laboratory they are defined as all the organisms which produce red or pink colonies within 48 hours at 35°C  $\pm$  1.0°C on M-enterococcus medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

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

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

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

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

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

Dry mass refers to the mass of residue present after drying in an oven at 60°C for zooplankton and 105°C for periphyton, until the mass remains unchanged. This mass represents the total organic matter, ash and sediment, in the sample. Dry mass values are expressed in the same units as ash mass.

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

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

Bottom material: See Bed material.

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

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

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

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

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

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

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

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

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

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

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

Dissolved refers to the amount of a substance present in true chemical solution. In practice, however, the term includes all forms of the substance that will pass through a 0.45-micrometer membrane filter and thus may include some very small (colloidal) suspended particles. Analyses are performed on filtered samples.

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

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

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

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

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

Ft<sup>3</sup>/s-day is the volume of water represented by a flow of 1 cubic foot per second for 24 hours. It is equivalent to 86,400 cubic feet, approximately 1.9835 acre-feet, or about 646,000 gallons or 2,445 cubic meters. It represents a runoff of approximately 0.0372 inch from 1 square mile or 0.3468 millimeter from 1 square kilometer.

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

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

Hardness of water is a physical-chemical characteristic that is commonly recognized by the increased quantity of soap that is required to produce lather. It is attributable to the presence of alkaline earths (principally calcium and magnesium) and is expressed as equivalent calcium carbonate ( $\text{CaCO}_3$ ).

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Periphyton are microorganisms attached to and growing upon solid surfaces. While primarily consisting of algae, the periphyton also include bacteria, fungi, protozoa, rotifers, and other small organisms. Periphyton are useful indicators of water quality.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Suspended-sediment concentration is the velocity-weighted concentration of suspended sediment in the sampled zone (from the water surface to a point approximately 0.3 ft or 0.09 m above the bed) expressed as milligrams of dry sediment per liter of water-sediment mixture (mg/L).

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

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

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

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

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

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

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

Substrate is the physical surface upon which an organism lives.

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

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

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

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

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

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

Kingdom.....	Animal
Phylum.....	Arthropoda
Class.....	Insecta
Order.....	Ephemeroptera
Family.....	Ephemeridae
Genus.....	<i>Hexagenia</i>
Species.....	<i>limbata</i>

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

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

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

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

Turbidity of a sample is the reduction of transparency due to the presence of particulate matter. In this report it is expressed in Jackson turbidity units (JTU).

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

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

#### DOWNSTREAM ORDER AND STATION NUMBER

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

As an added means of identification, each surface-water station, water-quality station, and partial-record station has been assigned a station number. These are in the same downstream order as used in this report. In assigning station numbers, no distinction is made between partial-record and continuous-record stations; therefore, the station number for a partial-record station indicates downstream order position in a list made up of both types of stations. Water-quality stations located at or near gaging stations or partial-record stations have the same number as the gaging or partial-record station. Gaps are left between the numbers to allow for new stations that may be established; hence the numbers are not consecutive. The complete 8-digit number for each station, such as 11105850 which appears just to the left of the station name, includes the 2-digit number "11" plus the 6-digit downstream order number "105850." In this report, the records are listed in downstream order by parts. The part number refers to an area whose boundaries coincide with certain natural drainage lines. Records for California are in Part 9 (Colorado River basin), Part 10 (The Great Basin), and Part 11 (Pacific slope basins in California). All records for a drainage basin encompassing more than one State could be arranged in downstream order by assembling pages from the various State reports by station number to include all records in the basin.



## NUMBERING SYSTEM FOR WELLS AND MISCELLANEOUS SITES

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

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

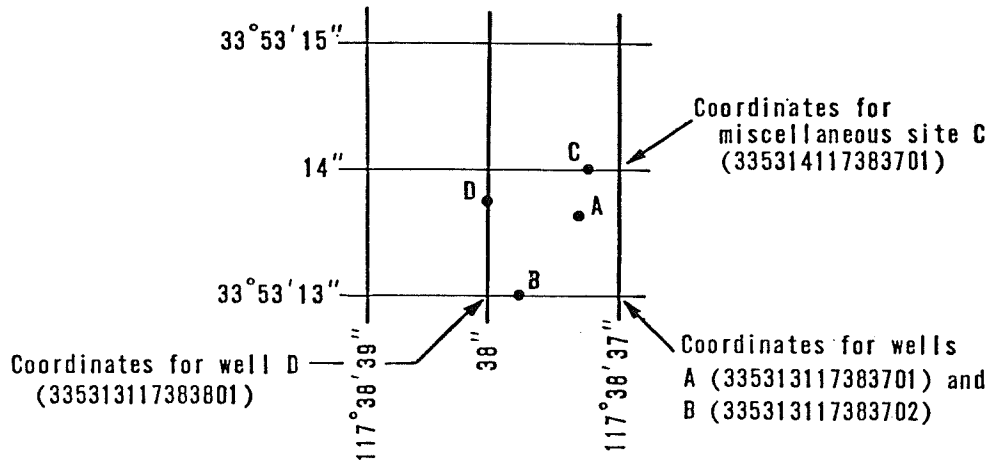


FIGURE 2.--System for numbering wells and miscellaneous sites (latitude and longitude).

#### Local well numbers

Wells and springs in California are assigned numbers according to their location on the rectangular system for the subdivision of public land. For example, in the number 5S/10E-22G1 M, the part of the number preceding the slash indicates the township (T.5 S.) and the number between the slash and hyphen indicates the range (R.10 E.); the digits following the hyphen indicate the section (sec.22); the letter following the section number indicates the 40-acre subdivision of the section. Within each 40-acre tract, the wells are numbered serially, as indicated by the final digit. The final letter, separated from the rest of the number by a space, indicates the base line and meridian. Base-line and meridian designations are as follows: H, Humboldt; M, Mount Diablo; S, San Bernardino. See figure 3.

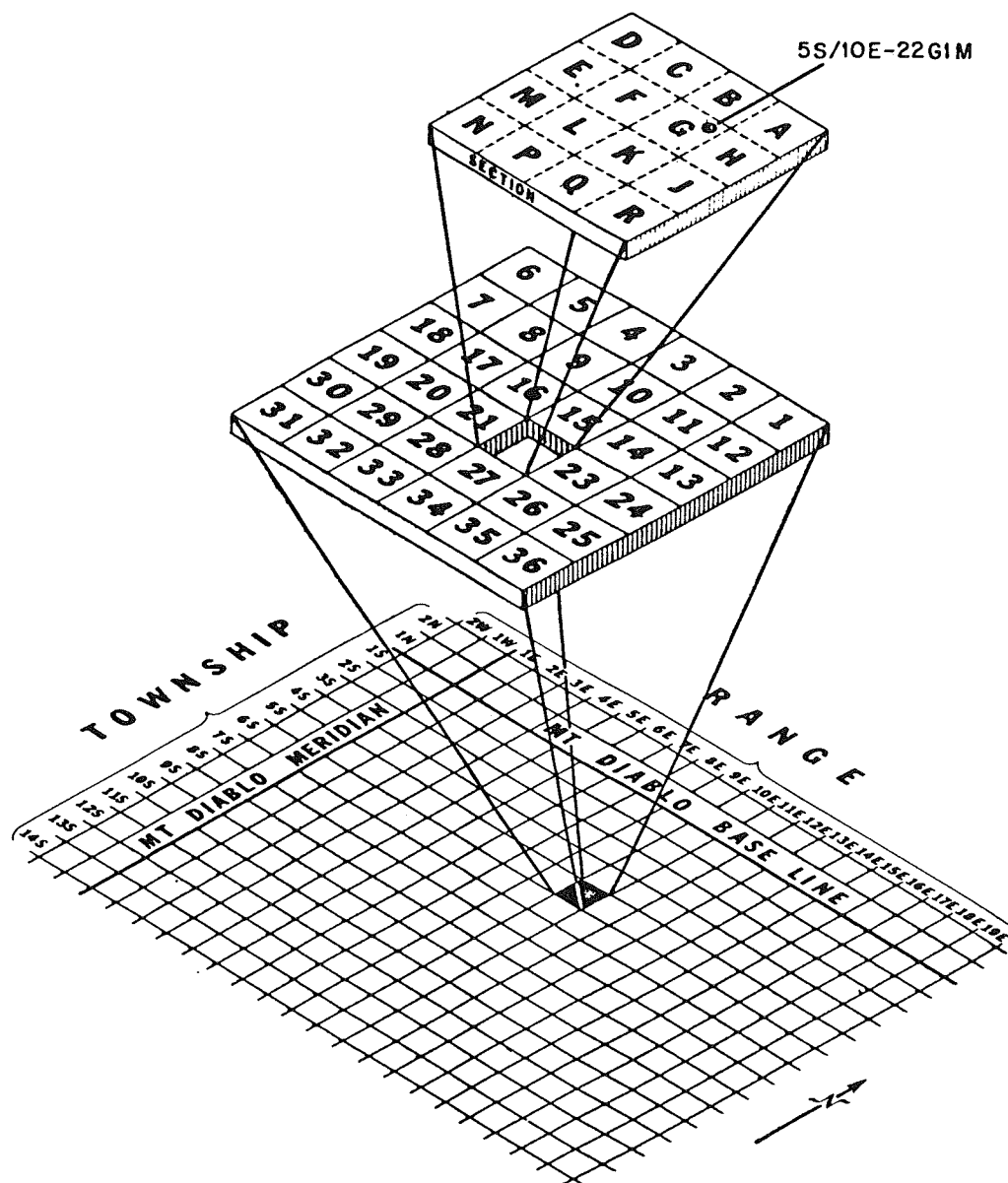


FIGURE 3.--Local well-numbering system.

## SPECIAL NETWORKS AND PROGRAMS

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

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

Volume 2:

11475500 Elder Creek near Branscomb, CA

Volume 3:

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

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

Volume 1:

09424190 Colorado River Aqueduct near San Jacinto, CA  
09429500 Colorado River above Imperial Dam, AZ-CA  
10254970 New River at International Boundary, at Calexico, CA  
10261500 Mojave River at lower narrows, near Victorville, CA  
10277400 Owens River below Tinemaha Reservoir, near Big Pine, CA  
11074000 Santa Ana River below Prado Dam, CA  
11103010 Los Angeles River at Willow Street Bridge, at Long Beach, CA

Volume 2:

11152500 Salinas River near Chualar, CA  
11467000 Russian River near Guerneville, CA  
11530500 Klamath River near Klamath, CA

Volume 3:

11250000 Friant-Kern Canal at Friant, CA  
11303500 San Joaquin River near Vernalis, CA  
11325500 Mokelumne River at Woodbridge, CA

Volume 4:

11447650 Sacramento River at Freeport, CA

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

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

## EXPLANATION OF STAGE AND WATER-DISCHARGE RECORDS

### Collection and computation of data

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

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

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

At some stream-gaging stations the stage-discharge relation is affected by ice in the winter, and it becomes impossible to compute the discharge in the usual manner. Discharge for periods of ice effect is computed on the basis of the gage-height record and occasional winter discharge measurements. Considera-

tion is given to the available information on temperature and precipitation, notes by gage observers and hydrologists, and comparable records of discharge.

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

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

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

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

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

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

was revised; and "(P)" that only the peak discharges were revised. If the drainage area has been revised, the report in which the revised figure was first published is given.

The type of gage currently in use, the datum of the present gage above mean sea level, and a condensed history of the types, locations, and datums of previous gages used during the period of record are given under "GAGE". In references to datum of gage, the phrase "mean sea level" denotes "National Geodetic Vertical Datum of 1929 (NGVD)" as used by the Topographic Division of the Geological Survey, unless otherwise qualified.

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

The average discharge for the number of years indicated is given under "AVERAGE DISCHARGE"; it is not given for stations having fewer than 5 complete years of record or for stations where changes in water development during the period of record cause the figure to have little significance. In addition, the median of yearly mean discharges is given for stream-gaging stations having 10 or more complete years of record if the median differs from the average by more than 10 percent. Under "EXTREMES" are given: First, the extremes for the period of record; second, information available outside the period of record; and last, those for the current year. Unless otherwise qualified, the maximum discharge (or contents) is the instantaneous maximum corresponding to the crest stage obtained by use of a water-stage recorder (graphic or digital), a crest-stage gage, or a nonrecording gage read at the time of the crest. If the maximum gage height did not occur on the same day as the maximum discharge (or contents), it is given separately. Similarly, the minimum is the instantaneous minimum unless otherwise qualified. For some stations peak discharges are listed with EXTREMES FOR THE CURRENT YEAR; if they are, all independent peaks (including the maximum for the year) above the selected base, with the time of occurrence and corresponding gage heights, are published in tabular format. The base discharge, which is given in the table heading, is selected so that an average of about three peaks a year will be presented. Peak discharges are not published for any canals, ditches, drains, or for any stream for which the peaks are subject to substantial control by man. Time of day is expressed in 24-hour local standard time; for example, 12:30 a.m. is 0030, 1:30 p.m. is 1330. The minimums for these stations are published in a separate paragraph following the table of peaks.

Skeleton rating tables are published, immediately following EXTREMES, for stream-gaging stations where they serve a useful purpose and the dates of applicability can be easily identified.

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

Footnotes to the table of daily discharges are introduced by the word "NOTE." Footnotes are used to indicate periods for which the discharge is computed or estimated by special methods because of no gage-height record, backwater from various sources, or other unusual conditions. Periods of no gage-height record are indicated if the period is continuous for a month or more or includes the maximum discharge for the year. Periods of backwater from an unusual source, of indefinite stage-discharge relation, or of any other unusual

condition at the gage site are indicated only if they are a month or more in length and the accuracy of the records is affected. Days on which the stage-discharge relation is affected by ice are not indicated. The methods used in computing discharge for various unusual conditions have been explained in preceding paragraphs.

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

Data collected at partial-record stations follow the information for continuous-record sites. Data for partial-record discharge stations are presented in two tables. The first is a table of discharge measurements at low-flow partial-record stations, and the second is a table of annual maximum stage and discharge at crest-stage stations. The tables of partial-record stations are followed by a listing of discharge measurements made at sites other than continuous-record or partial-record stations. Occasionally, a series of discharge measurements are made within a short time period to investigate the seepage gains or losses along a reach of a stream or to determine the low-flow characteristics of an area. Such measurements are also given in special tables following the tables of partial-record stations.

#### Accuracy of field data and computed results

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

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

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

Discharge at many stations, as indicated by the monthly mean, may not reflect natural runoff due to the effects of diversion, consumptive use, regulation by storage, increase or decrease due to artificial causes, or to other factors. Evaporation from a reservoir is not included in the adjustments for changes in reservoir contents, unless it is so stated. Even at those stations where adjustments are made, large errors in computed runoff may occur if adjustments or losses are large in comparison with the observed discharge.

#### Other data available

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

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

Records of discharge collected by agencies other than  
the Geological Survey

Records of discharge not published by the Geological Survey have been collected at numerous sites by many other Federal, State, County, City, and local agencies and by private organizations. A listing of stream-gaging stations and the agencies operating them is published in California Department of Water Resources Bulletin 157, "Index of Stream-Gaging Stations in and Adjacent to California." The National Water Data Exchange, Water Resources Division, U.S. Geological Survey, National Center, Reston, VA 22092, maintains an index of such sites. Information on records at specific sites can be obtained upon request.

EXPLANATION OF WATER-QUALITY RECORDS

Collection and examination of data

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

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

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

Water analysis

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

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

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



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

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

#### Water temperature

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

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

#### Sediment

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

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

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

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

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

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

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

### Turbidity

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

Measured values of turbidity are significantly influenced by the type of instrument used. Turbidity values published in California reports prior to July 1966 were determined by means of a Hellige Turbidimeter and are not directly comparable with those published subsequently. Data published in parts per million as silica from July 1966 to September 1968, and in milligrams per liter as silica from October 1968 to September 1970, were measured with a model 1860 Hach Turbidimeter which is optically similar to the model 2100 Hach Turbidimeter used from October 1970 to September 1974, and the model 2100A Hach Turbidimeter used since October 1974. Scales are available for those instruments providing a readout in either milligrams per liter or in Jackson turbidity units. Hence, conversion of data for the period July 1966 through September 1970, from parts per million or milligrams per liter of silica to Jackson turbidity units can be made by use of table 1.

Table 1.--Conversion of turbidity values, measured by Hach Turbidimeters Model 1860 or 2100, from parts per million or milligrams per liter of silica to Jackson turbidity units.

<u>Turbidity, in ppm or mg/L</u>	<u>Turbidity, in JTU</u>
5	3
10	6
50	30
100	55
200	110
500	240
1000	440

## EXPLANATION OF GROUND-WATER LEVEL RECORDS

Collection of the data

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

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

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

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

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

## PUBLICATIONS OF TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS

Thirty-four manuals by the U.S. Geological Survey have been published to date in the series on techniques describing procedures for planning and executing specialized work in water-resources investigations. The material is grouped under major subject headings called books and is further divided into sections and chapters. For example, Section A of Book 3 (Applications of Hydraulics) is on surface water. The chapter, the unit of publication, is limited to a narrow field of subject matter. This format permits flexibility in revision and publication as the need arises. The reports listed below are for sale by the U.S. Geological Survey, Branch of Distribution, 1200 South Eads Street, Arlington, VA 22202 (authorized agent of the Superintendent of Documents, Government Printing Office). Prices are effective January 1978 but are subject to change.

NOTE: When ordering any of these publications, please give the title, book number, chapter number, and "U.S. Geological Survey Techniques of Water-Resources Investigations."

- 1-D1. *Water temperature-influential factors, field measurement, and data presentation*, by H. H. Stevens, Jr., J. F. Ficke, and G. F. Smoot: USGS--TWRI Book 1, Chapter D1. 1975. 65 pages. \$1.60.
- 1-D2. *Guidelines for collection and field analysis of ground-water samples for selected unstable constituents*, by W. W. Wood: USGS--TWRI Book 1, Chapter D2. 1976. 24 pages. \$0.85.
- 2-D1. *Application of surface geophysics to ground-water investigations*, by A. A. R. Zohdy, G. P. Eaton, and D. R. Mabey: USGS--TWRI Book 2, Chapter D1. 1974. 116 pages. \$1.90.
- 2-E1. *Application of borehole geophysics to water-resources investigations*, by W. S. Keys and L. M. MacCary: USGS--TWRI Book 2, Chapter E1. 1971. 126 pages. \$1.75.
- 3-A1. *General field and office procedures for indirect discharge measurements*, by M. A. Benson and Tate Dalrymple: USGS--TWRI Book 3, Chapter A1. 1967. 30 pages. \$1.00.
- 3-A2. *Measurement of peak discharge by the slope-area method*, by Tate Dalrymple and M. A. Benson: USGS--TWRI Book 3, Chapter A2. 1967. 12 pages. \$0.35.
- 3-A3. *Measurement of peak discharge at culverts by indirect methods*, by G. L. Bodhaine: USGS--TWRI Book 3, Chapter A3, 1968. 60 pages. \$0.40.
- 3-A4. *Measurement of peak discharge at width contractions by indirect methods*, by H. F. Matthai: USGS--TWRI Book 3, Chapter A4. 1967. 44 pages. \$1.00.
- 3-A5. *Measurement of peak discharge at dams by indirect methods*, by Harry Hulsing: USGS--TWRI Book 3, Chapter A5, 1967. 29 pages. \$0.35.
- 3-A6. *General procedure for gaging streams*, by R. W. Carter and Jacob Davidian: USGS--TWRI Book 3, Chapter A6, 1968. 13 pages. \$1.00.
- 3-A7. *Stage measurements at gaging stations*, by T. J. Buchanan and W. P. Somers: USGS--TWRI Book 3, Chapter A7. 1968. 28 pages. \$1.40.
- 3-A8. *Discharge measurements at gaging stations*, by T. J. Buchanan and W. P. Somers: USGS--TWRI Book 3, Chapter A8. 1969. 65 pages. \$1.25.
- 3-A11. *Measurement of discharge by moving-boat method*, by G. F. Smoot and C. E. Novak: USGS--TWRI Book 3, Chapter A11. 1969. 22 pages. \$1.20.
- 3-A12. *Fluorimetric procedures for dye tracing*, by J. F. Wilson, Jr.: USGS--TWRI Book 3, Chapter A12. 1968. 31 pages. \$0.35. Not currently available.
- 3-B1. *Aquifer-test design, observation, and data analyses*, by R. W. Stallman: USGS--TWRI Book 3, Chapter B1. 1971. 26 pages. \$0.70.
- 3-B2. *Introduction to ground-water hydraulics, a programed text for self-instruction*, by G. D. Bennett: USGS--TWRI Book 3, Chapter B2. 1976. 172 pages. \$2.50.
- 3-C1. *Fluvial sediment concepts*, by H. P. Guy: USGS--TWRI Book 3, Chapter C1. 1970. 55 pages. \$0.65.
- 3-C2. *Field methods for measurement of fluvial sediment*, by H. P. Guy and V. W. Norman: USGS--TWRI Book 3, Chapter C2, 1970. 59 pages. \$2.50.
- 3-C3. *Computation of fluvial-sediment discharge*, by George Porterfield: USGS--TWRI Book 3, Chapter C3. 1972. 66 pages. \$2.10.

- 4-A1. *Some statistical tools in hydrology*, by H. C. Riggs: USGS--TWRI Book 4, Chapter A1. 1968. 39 pages. \$1.60.
- 4-A2. *Frequency curves*, by H. C. Riggs: USGS--TWRI Book 4, Chapter A2. 1968 15 pages. \$0.35.
- 4-B1. *Low-flow investigations*, by H. C. Riggs: USGS--TWRI Book 4, Chapter B1. 1972. 18 pages. \$0.65.
- 4-B2. *Storage analyses for water supply*, by H. C. Riggs and C. H. Hardison: USGS--TWRI Book 4, Chapter B2. 1973. 20 pages. \$0.75.
- 4-B3. *Regional analyses of streamflow characteristics*, by H. C. Riggs: USGS--TWRI Book 4, Chapter B3. 1973. 15 pages. \$0.65.
- 4-D1. *Computation of rate and volume of stream depletion by wells*, by C. T. Jenkins: USGS--TWRI Book 4, Chapter D1. 1970. 17 pages. \$1.10.
- 5-A1. *Methods for collection and analysis of water samples for dissolved minerals and gases*, by Eugene Brown, M. W. Skougstad, and M. J. Fishman: USGS--TWRI Book 5, Chapter A1. 1970. 160 pages. \$2.40.
- 5-A2. *Determination of minor elements in water by emission spectroscopy*, by P. R. Barnett and E. C. Mallory, Jr.: USGS--TWRI Book 5, Chapter A2. 1971. 31 pages. \$0.80.
- 5-A3. *Methods for analysis of organic substances in water*, by D. F. Goerlitz and Eugene Brown: USGS--TWRI Book 5, Chapter A3. 1972. 40 pages. \$0.90.
- 5-A4.\* *Methods for collection and analysis of aquatic biological and microbiological samples*, edited by P. E. Greenson, T. A. Ehlke, G. A. Irwin, B. W. Lium, and K. V. Slack: USGS--TWRI Book 5, Chapter A4. 332 pages. \$20.00.
- 5-A5.\* *Methods for determination of radioactive substances in water and fluvial sediments*, by L. L. Thatcher, V. J. Janzer, and K. W. Edwards: USGS--TWRI Book 5, Chapter A5. 1977. 95 pages. \$16.00.
- 5-C1. *Laboratory theory and methods for sediment analyses*, by H. P. Guy: USGS--TWRI Book 5, Chapter C1. 1969. 58 pages. \$2.10.
- 7-C1. *Finite-difference model for aquifer simulation in two dimensions with results of numerical experiments*, by P. C. Trescott, G. F. Pinder, and S. P. Larson: USGS--TWRI Book 7, Chapter C1. 1976. 116 pages. \$2.30.
- 8-A1. *Methods of measuring water levels in deep wells*, by M. S. Garber and F. C. Koopman: USGS--TWRI Book 8, Chapter A1. 1968. 23 pages. \$0.70.
- 8-B2. *Calibration and maintenance of vertical-axis type current meters*, by G. F. Smoot and C. E. Novak: USGS--TWRI Book 8, Chapter B2. 1968. 15 pages. \$1.10.

\*These publications are available ONLY from Superintendent of Documents, Government Printing Office, Washington, D.C. 20402. They are in looseleaf format and are subscription items. Additional supplements will be issued to subscribers at no extra cost. Checks should be made payable to Superintendent of Documents. Requester should emphasize to Superintendent of Documents that this is a subscription item.

## COLORADO RIVER MAIN STEM

09421500 COLORADO RIVER BELOW HOOVER DAM, AZ-NV  
(National stream-quality accounting network station)

LOCATION.--Lat 36°00'55", long 114°44'16", in NE¼SW¼ sec.3, T.30 N., R.23 W., Gila and Salt River meridian, or SW¼NE¼ sec.29, T.22 S., R.65 E., Mount Diablo meridian, Mohave-Clark Counties, Hydrologic Unit 15030101, in powerhouse at downstream side of Hoover Dam.

DRAINAGE AREA.--171,700 mi<sup>2</sup> (444,700 km<sup>2</sup>), approximately, including 3,959 mi<sup>2</sup> (10,254 km<sup>2</sup>) in Great Divide basin in southern Wyoming, which is noncontributing (previously considered part of the Missouri River basin).

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1933 to current year (prior to April 1934, monthly discharge only, published in WSP 1313). Published as "near Willow Beach" 1933-39 and as "below Boulder Dam" 1939-45.

GAGE.--Totalizing flowmeters on each turbine in Hoover Dam powerhouse. Prior to Nov. 1, 1939, water-stage recorder at site 9 mi (14 km) downstream at datum 594.8 ft (181.30 m) above mean sea level. Nov. 1, 1939, to June 30, 1958, water-stage recorder at site 0.8 mi (1.3 km) downstream at datum 600.35 ft (182.987 m) above mean sea level.

REMARKS.--Flow regulated by Lake Mead since Feb. 1, 1935. Many diversions above station for irrigation, industrial, and municipal use.

COOPERATION.--Records furnished by Bureau of Reclamation.

AVERAGE DISCHARGE.--43 years (water years 1935-77), 13,270 ft<sup>3</sup>/s (375.8 m<sup>3</sup>/s), 9,614,000 acre-ft/yr (11,900 hm<sup>3</sup>/yr) unadjusted for storage in Lake Mead.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 36,000 ft<sup>3</sup>/s (1,020 m<sup>3</sup>/s) Jan. 28, 1942; no flow at Hoover Dam part of Feb. 10, 1935; minimum daily, 152 ft<sup>3</sup>/s (4.30 m<sup>3</sup>/s) Feb. 10, 1935.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 25,000 ft<sup>3</sup>/s (708 m<sup>3</sup>/s) Apr. 25; minimum daily, 1,390 ft<sup>3</sup>/s (39.4 m<sup>3</sup>/s) Jan. 22.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4910	4080	8040	3760	7890	17300	15400	7470	12100	17700	15200	10800
2	1940	6660	6800	4550	9820	15800	6560	19400	16800	6130	17400	10800
3	2150	2530	4390	7360	10400	15500	4060	19400	15000	4120	19000	8610
4	2100	4250	3830	7630	10100	16100	14800	18200	10500	4010	18900	4630
5	2540	3620	2560	11900	4660	8130	13400	20000	5160	11700	19600	6210
6	3070	2580	5860	7350	4460	6240	12700	16100	15700	18500	12500	16000
7	5290	2360	7800	5100	16300	15900	14100	11000	15900	15800	6590	12900
8	5940	6050	9120	2250	14400	17900	16600	8780	14400	17700	17800	13800
9	2720	7420	9380	2380	12700	17100	9480	17400	13500	6760	17800	9680
10	2710	8650	7120	3300	11700	18500	4790	13300	12200	6130	17200	5500
11	7900	8480	4600	3130	10300	16200	16400	14100	6430	15100	16900	5090
12	7610	10600	3870	2980	5600	6860	16200	12700	6010	17600	15500	7680
13	11500	4270	7470	4070	3820	5260	17600	9950	11700	18500	10500	7930
14	10700	3960	7570	4440	16500	15900	17100	4550	13600	22500	11200	6060
15	11000	8470	9740	4630	17500	16300	16800	2970	13000	21100	17400	4660
16	5620	7400	10500	4920	19600	17800	10300	16200	14200	11300	16900	4080
17	4420	10900	11500	4490	10300	18100	8840	16800	14600	8920	14300	3150
18	13400	6100	8270	2960	10100	16600	20100	13200	8480	16500	22800	2960
19	12000	3400	5250	2750	4850	9860	23100	13100	5880	17900	23700	7570
20	12300	2060	8460	1490	3780	7320	24400	13900	12900	17500	15400	8340
21	12400	2040	10400	1900	10600	13600	24900	9560	14600	18900	7420	7130
22	9850	2740	13100	1390	15200	17200	23400	6280	13800	18600	12300	6690
23	2060	4890	9610	1610	17200	16300	19800	13400	18000	12400	11200	7190
24	2190	5060	6730	1890	16500	16100	14800	11500	16900	7210	13100	3400
25	2680	2520	6300	1840	13900	15200	25000	11700	6270	17700	13200	2840
26	2800	2800	7190	4050	6450	7010	23700	13500	6060	18400	12300	9320
27	3990	3540	10800	4200	5870	6620	21400	12900	9750	16800	5640	8860
28	3820	2760	13500	4570	16200	15500	23800	8350	13100	16700	5360	11400
29	2860	6400	13200	3840	---	15500	22700	6390	13500	21000	13000	12300
30	2200	6870	8730	3120	---	13700	15900	7550	13000	14900	11100	11000
31	2400	---	3820	6400	---	15200	---	13800	---	11900	10400	---
TOTAL	177070	153460	245510	126250	306700	430600	498130	383450	363040	449980	441610	236580
MEAN	5712	5115	7920	4073	10950	13890	16600	12370	12100	14520	14250	7886
MAX	13400	10900	13500	11900	19600	18500	25000	20000	18000	22500	23700	16000
MIN	1940	2040	2560	1390	3780	5260	4060	2970	5160	4010	5360	2840
AC-FT	351200	304400	487000	250400	608300	854100	988000	760600	720100	892500	875900	469300
CAL YR 1976	TOTAL	3996260	MEAN	10920	MAX	22900	MIN	1940	AC-FT	7927000		
WTR YR 1977	TOTAL	3812380	MEAN	10440	MAX	25000	MIN	1390	AC-FT	7562000		

09421500 COLORADO RIVER BELOW HOOVER DAM, AZ-NV--Continued

## WATER-QUALITY RECORDS

LOCATION.--Lat 36°00'38", long 114°44'31", in SW¼SW¼ sec.3, T.30 N., R.23 W., Gila and Salt River meridian, Mohave County, Ariz., or in SW¼SE¼ sec.29, T.22 S., R.65 E., Mount Diablo meridian, Clark County, Nev., 0.3 mi (0.5 km) downstream from gaging station in powerhouse at downstream side of Hoover Dam.

DRAINAGE AREA.--171,800 mi<sup>2</sup> (445,000 km<sup>2</sup>), approximately, including 3,959 mi<sup>2</sup> (10,254 km<sup>2</sup>) in Great Divide basin in southern Wyoming which is noncontributing (previously considered part of the Missouri River basin).

PERIOD OF RECORD.--October 1939 to September 1962, October 1963 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: October 1941 to September 1957.

REMARKS.--Unpublished chemical analyses for period October 1939 to September 1940, available from district office in Tucson, Ariz.

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	DIS- CHARGE (CFS)	INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	FECAL COLI- FORM .7UM-MF (COL./ 100 ML)
OCT									
05...	0800	--	2920	1070	7.9	13.0	1	--	--
05...	1155	--	3100	--	--	13.0	--	--	--
06...	0800	--	400	--	--	13.0	--	--	150
NOV									
09...	0830	--	4110	1060	7.9	12.5	1	--	--
09...	1255	--	11300	--	--	12.5	--	--	--
10...	0730	--	4280	--	--	12.5	--	--	82
DEC									
07...	0815	--	7900	1060	7.9	12.5	1	--	--
07...	1230	--	5820	--	--	12.5	--	--	--
08...	0800	--	7310	--	--	--	--	--	81
JAN									
11...	0800	--	5320	1070	7.7	12.5	3	--	--
11...	1330	--	2550	--	--	12.5	--	--	--
13...	0800	--	308	--	--	13.0	--	--	84
FEB									
08...	0815	--	15420	1100	7.6	12.5	1	--	--
08...	1235	--	16200	--	--	12.5	--	--	--
09...	0800	--	12110	--	--	12.0	--	--	82
MAR									
08...	0800	--	27570	1040	7.7	11.5	1	--	--
08...	1210	--	25000	--	--	12.0	--	--	--
09...	0800	--	25420	--	--	11.5	--	--	81
APR									
12...	0800	--	27850	1050	7.9	11.5	1	--	--
12...	1225	--	32000	--	--	12.0	--	--	--
13...	0800	--	30400	--	--	11.5	--	--	81
MAY									
03...	0800	--	21800	1050	8.1	11.5	0	--	--
03...	1500	--	31700	--	--	12.0	--	--	--
04...	0800	--	19100	--	--	11.5	--	--	81
JUN									
07...	0740	--	18200	1060	7.7	12.0	1	--	--
07...	1210	--	23900	--	--	12.5	--	--	--
08...	0800	--	19600	--	--	12.5	--	--	81
JUL									
12...	0800	--	16190	1060	7.4	12.0	10	--	--
12...	1135	--	27000	--	--	12.0	--	--	--
13...	0800	--	13460	--	--	12.0	--	--	81
AUG									
09...	0800	--	13690	1070	7.3	12.5	0	--	--
09...	1235	--	32700	--	--	13.0	--	--	--
10...	0800	--	17640	--	--	13.0	--	--	81
SEP									
13...	0745	--	9350	1060	7.7	12.5	1	--	--
13...	1135	13300	14400	--	--	13.5	--	--	--
14...	0800	--	4370	--	--	13.5	--	8.4	81

B Results based on non-ideal colony count.

## COLORADO RIVER MAIN STEM

09421500 COLORADO RIVER BELOW HOOVER DAM, -AZ-NV--Continued

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	FECAL STREP- TOCOCCI KF AGAR (COL. PER 100 ML)	HARD- NESS (CA, MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)
OCT									
05...	--	330	190	87	27	100	2.4	4.9	165
05...	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--
NOV									
09...	--	330	170	86	27	96	2.3	4.6	189
09...	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--
DEC									
07...	--	320	190	83	28	98	2.4	4.6	167
07...	--	--	--	--	--	--	--	--	--
08...	B1	--	--	--	--	--	--	--	--
JAN									
11...	--	290	170	80	23	120	3.0	4.7	152
11...	--	--	--	--	--	--	--	--	--
13...	B3	--	--	--	--	--	--	--	--
FEB									
08...	--	320	190	81	29	100	2.4	4.6	159
08...	--	--	--	--	--	--	--	--	--
09...	B4	--	--	--	--	--	--	--	--
MAR									
08...	--	320	190	81	29	97	2.4	4.5	159
08...	--	--	--	--	--	--	--	--	--
09...	45	--	--	--	--	--	--	--	--
APR									
12...	--	320	190	80	29	97	2.4	4.5	160
12...	--	--	--	--	--	--	--	--	--
13...	B1	--	--	--	--	--	--	--	--
MAY									
03...	--	330	200	85	29	98	2.3	4.7	160
03...	--	--	--	--	--	--	--	--	--
04...	B1	--	--	--	--	--	--	--	--
JUN									
07...	--	320	190	81	29	100	2.4	5.0	160
07...	--	--	--	--	--	--	--	--	--
08...	B1	--	--	--	--	--	--	--	--
JUL									
12...	--	330	210	83	30	100	2.4	4.4	150
12...	--	--	--	--	--	--	--	--	--
13...	B1	--	--	--	--	--	--	--	--
AUG									
09...	--	350	220	88	31	100	2.3	4.6	160
09...	--	--	--	--	--	--	--	--	--
10...	B2	--	--	--	--	--	--	--	--
SEP									
13...	--	310	180	80	27	96	2.4	4.8	160
13...	--	--	--	--	--	--	--	--	--
14...	B2	--	--	--	--	--	--	--	--



09421500 COLORADO RIVER BELOW HOOVER DAM, AZ-NV--Continued

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	CAR- BONATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SiO2) (MG/L)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L)	DIS- SOLVED SOLIDS (TONS PER AC-FT)
OCT								
05...	0	290	85	.6	8.9	691	687	.94
05...	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--
NOV								
09...	0	270	80	.4	8.3	689	668	.94
09...	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--
DEC								
07...	0	290	80	.4	8.3	692	677	.94
07...	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--
JAN								
11...	0	300	97	1.0	12	729	714	.99
11...	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--
FEB								
08...	0	290	86	.5	9.1	714	681	.97
08...	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--
MAR								
08...	0	280	90	.3	7.6	685	670	.93
08...	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--
APR								
12...	0	270	81	.4	8.5	684	651	.93
12...	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--
MAY								
03...	0	270	79	.4	8.7	692	655	.94
03...	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--
JUN								
07...	0	280	80	.3	8.4	697	664	.95
07...	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--
JUL								
12...	0	280	87	.3	8.4	705	669	.96
12...	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--
AUG								
09...	0	290	81	.3	8.9	707	683	.96
09...	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--
SEP								
13...	0	280	83	.4	9.8	692	660	.94
13...	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--

DATE	DIS- SOLVED NITRATE (N) (MG/L)	DIS- SOLVED NITRITE (N) (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	DIS- SOLVED ORTHO- PHOS- PHORUS (P) (MG/L)
OCT								
05...	.54	.01	.47	.55	2.4	2.9	.01	.01
NOV								
09...	--	--	.50	.45	.11	.61	.01	.02
DEC								
07...	--	--	.51	.47	.28	.79	.01	.00
JAN								
11...	--	--	.38	.38	.48	.86	.01	.02
FEB								
08...	--	--	.39	.47	.25	.64	.01	.01
MAR								
08...	--	--	.35	.43	.44	.79	.00	.01
APR								
12...	--	--	.38	.37	.50	.88	.00	.02
MAY								
03...	--	--	.41	.37	.57	.98	.01	.02
JUN								
07...	--	--	.31	.40	1.2	1.5	.03	.01
JUL								
12...	--	--	.34	.43	.07	.41	.03	.01
AUG								
09...	--	--	.65	--	.59	1.2	.00	--
SEP								
13...	--	--	.37	--	.00	.37	.01	--

## COLORADO RIVER MAIN STEM

09421500 COLORADO RIVER BELOW HOOVER DAM, AZ-NV--Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	DTS-SOLVED IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	DTS-SOLVED LEAD (PB) (UG/L)	TOTAL MANGANESE (MN) (UG/L)	DTS-SOLVED MANGANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	DTS-SOLVED MERCURY (HG) (UG/L)	TOTAL SILICUM (SF) (UG/L)	DTS-SOLVED SILICUM (SE) (UG/L)	TOTAL ZINC (ZN) (UG/L)	DTS-SOLVED ZINC (ZN) (UG/L)	TOTAL ORGANIC CARBON (C) (MG/L)
NOV 09...	10	<100	0	0	10	1.3	.0	3	2	10	10	2.2
FEB 08...	20	<100	11	10	0	.2	.0	3	3	10	0	2.6
MAY 03...	10	<100	0	10	10	.0	.0	3	3	10	0	2.2
AUG 09...	0	<100	15	8	0	.0	.2	6	6	50	10	3.8

DATE	TOTAL ARSENIC (AS) (UG/L)	DTS- SOLVED ARSENIC (AS) (UG/L)	TOTAL BORON (B) (UG/L)	DTS- SOLVED BORON (B) (UG/L)	TOTAL CAD- MIUM (CD) (UG/L)	DTS- SOLVED CAD- MIUM (CD) (UG/L)	TOTAL CHRO- MIUM (CR) (UG/L)	DTS- SOLVED CHRO- MIUM (CR) (UG/L)	TOTAL COBAL T(CO) (UG/L)	DTS- SOLVED COBAL T(CO) (UG/L)	TOTAL COPPER (CU) (UG/L)	DTS- SOLVED COPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)
NOV 09...	3	1	180	130	<10	1	0	<50	0	<10	1	20	
FEB 08...	6	6	400	140	<10	1	0	<50	0	<10	4	160	
MAY 03...	4	3	150	130	10	1	0	<50	0	<10	1	50	
AUG 09...	2	3	200	140	<10	3	0	<50	0	<10	2	120	

&lt; Actual value is known to be less than value shown.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	BIOMASS CHLOROPHYLL RATIO PERI-PHYTON (UNITS)	CHLOR-A PERT-PHYTON CHROMO-SPECT- METRIC (MG/M2)	CHLOR-B PERI-PHYTON CHROMO-SPECT- METRIC (MG/M2)	TOTAL PHYTO- PLANK- TON (CELLS PER ML)
OCT 05...	0800	--	--	--	200
NOV 09...	0830	453	5.94	1.13	870
DEC 07...	0815	--	--	--	480
JAN 11...	0800	--	--	--	42
FEB 08...	0815	--	--	--	30
MAY 03...	0800	--	--	--	1300
JUN 07...	0740	--	--	--	10
JUL 12...	0800	--	--	--	13
AUG 09...	0800	3048	--	--	5
SEP 13...	0745	--	--	--	36

DATE	TIME	DIS- CHARGE (CFS)	INSTAN- TANEOUS DIS- CHARGE (CFS)	SUS- PENDE- D DIS- CHARGE (MG/L)	SUS- PENDE- D DIS- CHARGE (T/DAY)	SUS- SED- IMENT DIS- CHARGE (T/DAY)	% FINER THAN .062 MM
OCT 05...	1155	--	3100	2	17	66	
NOV 09...	1255	--	11300	0	.00	--	
DEC 07...	1230	--	5820	1	16	55	
JAN 11...	1330	--	2550	1	6.9	62	
FEB 08...	1235	--	16200	1	44	84	
MAR 08...	1210	--	25000	1	67	47	
APR 12...	1225	--	32000	1	86	81	
MAY 03...	1500	--	31700	1	86	46	
JUN 07...	1210	--	23900	2	129	53	
JUL 12...	1135	--	27000	1	73	62	
AUG 09...	1235	--	32700	1	88	53	
SEP 13...	1135	13300	14400	1	36	72	

09421500 COLORADO RIVER BELOW HOOVER DAM, AZ-NV--Continued

## QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE TIME	PHYTOPLANKTON									
	OCT 5,76 0800	NOV 9,76 0830	DEC 7,76 0815	JAN 11,77 0800	FEB 8,77 0815					
TOTAL CELLS/ML	200	870	480	42	30					
DIVERSITY: DIVISION	1.1	0.2	0.5	1.3	1.0					
..CLASS	1.1	0.2	0.5	1.3	1.0					
..ORDER	1.2	0.6	0.5	1.5	1.0					
...FAMILY	2.0	0.7	0.5	2.1	1.8					
....GENUS	2.0	0.7	0.8	2.4	2.1					
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)										
..CHLOROPHYCEAE										
...CHLOROCOCCALES										
....COELASTRACEAE										
.....COFLASTRUM	--	-	--	-	30	6	--	-	--	-
.....MICRACTINIACEAE										
.....MICRACTINIUM	--	-	--	-	--	-	--	-	--	-
...DUCYSTACEAE										
....ANKISTRUEDESMUS	--	-	--	-	--	-	--	-	--	-
.....DUCYSTIS	--	-	--	-	--	-	12#	29	--	-
....SELENASTRUM	--	-	--	-	--	-	--	-	--	-
....TETRAEDRON	--	-	--	-	--	-	3	7	--	-
...SCENEDESMACEAE										
....SCENEDESMUS	17	8	--	-	--	-	12#	29	12#	40
..VOLVOCALES										
...CHLAMYDOMONADACEAE										
....CHLAMYDOMONAS	4	2	--	-	--	-	--	-	--	-
...PHACOTACEAE										
....PHACOTIS	--	-	--	-	--	-	--	-	--	-
..ZYGNEMATALES										
...DESMIDIACEAE										
....SPINDYLUSIUM	*	0	--	-	--	-	--	-	--	-
CHRYSOPHYTA										
..BACILLARIOPHYCEAE										
...CENTRALES										
....COSCINODISCACEAE										
.....CYCLOTELLA	4	2	--	-	--	-	6	14	--	-
....MELUSIRA	--	-	--	-	--	-	--	-	--	-
..PENNALES										
...CYMBELLACEAE										
....CYMBELLA	--	-	--	-	--	-	3	7	--	-
...DIATOMACEAE										
....DIATOMA	--	-	--	-	--	-	--	-	--	-
...FRAGILARIACEAE										
....ASTERIONELLA	--	-	--	-	--	-	--	-	--	-
....FRAGILARTA	--	-	--	-	--	-	--	-	--	-
....SYNEOKA	--	-	--	-	4	1	--	-	6#	20
...NAVICULACEAE										
....NAVICULA	21	10	20	2	*	0	--	-	6#	20
...STAUROMETS	--	-	--	-	--	-	--	-	3	10
...NITZSCHACEAE										
....NITZSCHIA	4	2	10	1	6	1	--	-	3	10
CYANOPHYTA (BLUE-GREEN ALGAE)										
..CYANOPHYCEAE										
...CHROCCOCCALES										
....CHROCCOCCACEAE										
.....AGMENELLUM	--	-	79	9	--	-	--	-	--	-
.....ANACYSTIS	--	-	--	-	--	-	--	-	--	-
...HORMOGONIALES										
...NOSTOCACEAE										
....CYLINDROSPERMUM	68#	33	--	-	--	-	--	-	--	-
...OSCILLATORIAACEAE										
....LYNGRYA	--	-	760#	88	28	6	--	-	--	-
....OSCILLATORIA	85#	42	--	-	410#	86	--	-	--	-
...RIVULARIACEAE										
....RAPHTOTOPSIS	*	0	--	-	--	-	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)										
..CRYPTOPHYCEAE										
...CRYPTOMONIDALES										
....CRYPTOCHYSDACEAE										
....CHROMONAS	--	-	--	-	--	-	6	14	--	-
PYRRHOPHYTA (FIRE ALGAE)										
..UINOPHYCEAE										
...PERIDINIALES										
....GLENODINIACEAE										
....GLENODINTUM	--	-	--	-	--	-	--	-	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%

\* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

## COLORADO RIVER MAIN STEM

09421500 COLORADO RIVER BELOW HOOVER DAM, AZ-NV--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

## PHYTOPLANKTON

DATE TIME	MAY 7,77 0800	JUN 7,77 0740	JUL 12,77 0800	AUG 9,77 0800	SEP 13,77 0745
TOTAL CELLS/ML	1300	10	13	5	36
DIVERSITY: DIVISION	0.5	0.0	0.0	0.0	1.4
..CLASS	0.5	0.0	0.0	0.0	1.4
...ORDER	0.6	0.9	0.0	0.0	1.4
...FAMILY	0.6	0.9	0.9	0.0	2.1
....GENUS	0.7	0.9	0.9	0.0	2.1

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)										
..CHLOROPHYCEAE										
...CHLOROCOCCALES										
...COELASTRACEAE										
....COELASTRUM	--	-	--	-	--	-	--	-	--	-
....MICRACITINACEAE										
....MICRACITINIUM	11	1	--	-	--	-	--	-	--	-
....DUCYSTACEAE										
....ANKISTRODESMIIS	*	0	--	-	--	-	--	-	--	-
....DUCYSTIS	19	1	--	-	--	-	--	-	--	-
....SELENASTRUM	8	1	--	-	--	-	--	-	--	-
....TETRAEDRON	--	-	--	-	--	-	--	-	--	-
....SCENEDESMACEAE										
....SCENEDESMUS	21	2	--	-	--	-	--	-	--	-
...VOLVOCALES										
...CHLAMYDOMONADACEAE										
...CHLAMYDOMONAS	--	-	--	-	--	-	--	-	4	10
...PHACOTACEAE										
...PHACOTIS	--	-	--	-	--	-	--	-	4	10
...ZYGNEMATALES										
...DESMIDIACEAE										
...SPONDYLIDIUM	--	-	--	-	--	-	--	-	--	-
CHRYSOPHYTA										
..BACTILLARIOPHYCEAE										
..CENTRALES										
...COSCINODISCAEAE										
...CYCLOTELLA	--	-	--	-	--	-	--	-	--	-
...MELOSIRA	23	2	6#	67	--	-	--	-	--	-
...PENNALIS										
...CYMBELLACEAE										
...CYMBELLA	*	0	3#	33	--	-	--	-	--	-
...DIATOMACEAE										
...DIATOMA	--	-	--	-	4#	33	--	-	--	-
...FRAGILARIACEAE										
...ASTERIONELLA	8	1	--	-	--	-	--	-	--	-
...FRAGILARIA	*	0	--	-	--	-	--	-	--	-
...SYNEDRA	*	0	--	-	--	-	--	-	--	-
...NAVICULACEAE										
...NAVICULA	--	-	--	-	8#	67	5#	100	7#	20
...STAUROMETS	--	-	--	-	--	-	--	-	--	-
...NITZSCHIAEAE										
...NITZSCHIA	*	0	--	-	--	-	--	-	14#	40
CYANOPHYTA (BLUE-GREEN ALGAE)										
..CYANOPHYCEAE										
...CHROCOCCALES										
...CHROCOCCACEAE										
...AGMENELLUM	--	-	--	-	--	-	--	-	--	-
...ANACYSTIS	--	-	--	-	--	-	--	-	7#	20
...HOPMONDIALES										
...NOSTOCACEAE										
...CYLINDROSPPERMUM	--	-	--	-	--	-	--	-	--	-
...OSCILLATORIACEAE										
...LYNGRYA	--	-	--	-	--	-	--	-	--	-
...OSCILLATORIA	1200#	91	--	-	--	-	--	-	--	-
...RTVILLARTACEAE										
...RAPHTIDIUMPSIS	--	-	--	-	--	-	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)										
..CRYPTOPHYCEAE										
...CRYPTOMONIDALES										
...CRYPTOCHRYSTACEAE										
...CHROMONAS	--	-	--	-	--	-	--	-	--	-
PYRRHOPHYTA (FIRE ALGAE)										
..PYRRHOPHYCEAE										
...PERIDINIALES										
...GLENODINIACEAE										
...GLENODINIUM	*	0	--	-	--	-	--	-	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%

\* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

09423000 COLORADO RIVER BELOW DAVIS DAM, AZ-NV

LOCATION.--Lat 35°11'30", long 114°34'17", in SE $\frac{1}{4}$ NE $\frac{1}{4}$  sec.1, T.32 S., R.66 E., Mount Diablo meridian, in Nevada, Clark County, Hydrologic Unit 15030101, on right bank 0.5 mi (0.8 km) downstream from Davis Dam, 29 mi (47 km) west of Kingman, Ariz., and 68 mi (109 km) downstream from Hoover Dam.

DRAINAGE AREA.--173,300 mi<sup>2</sup> (448,800 km<sup>2</sup>), approximately, including 3,959 mi<sup>2</sup> (10,254 km<sup>2</sup>) in Great Divide basin in southern Wyoming, which is noncontributing (previously considered part of the Missouri River basin).

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1905 to September 1907 (published as "at Hardyville"), March 1949 to current year.

GAGE.--Water-stage recorder. Datum of gage is 500.00 ft (152.40 m) above mean sea level; gage readings have been reduced to elevations above mean sea level. 1905-7, nonrecording gage at site 4.8 mi (7.7 km) downstream at datum about 13.4 ft (4.1 m) lower. Mar. 16 to May 3, 1949, water-stage recorder at site 0.5 mi (0.8 km) downstream at present datum. May 4, 1949, to Feb. 24, 1956, water-stage recorder at site 400 ft (120 m) upstream at present datum.

REMARKS.--Records excellent. Flow regulated by Lake Mead since Feb. 1, 1935, and by Lake Mohave since Jan. 17, 1950. Many diversions upstream for irrigation, industrial, and municipal uses.

AVERAGE DISCHARGE.--28 years (1949-77), 12,500 ft<sup>3</sup>/s (354.0 m<sup>3</sup>/s), 9,056,000 acre-ft/yr (11,200 km<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--1905-7: Maximum daily discharge, 116,000 ft<sup>3</sup>/s (3,290 m<sup>3</sup>/s) June 20, 1906; minimum daily, 2,850 ft<sup>3</sup>/s (80.7 m<sup>3</sup>/s) Jan. 5, 1906.

1949-77: Maximum discharge, 31,200 ft<sup>3</sup>/s (884 m<sup>3</sup>/s) Apr. 22, 1952 (elevation, 513.91 ft or 156.640 m); no flow at Davis Dam parts of several days July to September 1950 and Dec. 27, 1950, when gates in dam were closed; minimum daily discharge, 285 ft<sup>3</sup>/s (8.07 m<sup>3</sup>/s) Aug. 3, 1950.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 28,100 ft<sup>3</sup>/s (796 m<sup>3</sup>/s) Mar. 4 (elevation, 506.16 ft or 154.278 m); minimum daily discharge, 2,010 ft<sup>3</sup>/s (56.9 m<sup>3</sup>/s) Oct. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2230	5880	9750	4280	9490	11200	16300	11700	14400	19800	20000	16400
2	2010	5230	9370	6120	9750	11300	16400	14900	14400	19900	18900	13000
3	2030	5260	10800	4600	11100	10300	10000	15600	15700	15800	17400	9060
4	8650	5250	8540	4450	10700	11100	15400	15600	15900	20300	17300	9110
5	9100	5210	5390	3430	10400	11100	16100	16700	15300	20600	18100	15700
6	8550	6020	8820	3400	7740	10200	17300	16800	16400	20200	18900	12400
7	8440	4900	8820	2770	12100	11100	16200	14900	15600	16900	13900	8490
8	8490	7020	8330	2250	12300	11400	18800	11700	15300	18900	20400	8760
9	9040	6920	8380	2190	11300	12700	17700	13600	14700	19800	17600	7200
10	9670	5370	8520	2450	9900	15600	12000	12500	15800	12100	15800	8560
11	9810	5740	7900	3170	11100	15600	17800	12900	14700	19900	17600	8060
12	8150	6880	6320	2360	11600	16400	18200	11900	11700	18300	19400	6100
13	7780	4880	9180	2970	8310	10200	17400	8740	14300	16800	19000	6560
14	7870	4070	10200	2160	12300	15600	18100	9760	13900	16400	13800	5890
15	7300	4530	8430	2200	11000	15500	17400	9880	13900	18500	18300	5410
16	7420	5580	6720	3640	11500	15600	18300	9560	12700	18100	6810	6400
17	6980	4740	7210	4340	10300	15600	12400	9130	14400	13200	3510	7410
18	7460	4820	7130	4990	11600	17000	17100	9780	15100	20100	2580	8380
19	7610	4170	5340	4520	12700	16500	17600	13600	12000	19100	2280	11700
20	7060	3590	6220	6400	9290	10400	18700	16000	16100	15800	5010	12300
21	7420	3390	4180	8360	12400	15500	17100	15200	17000	15400	2250	11500
22	5730	3370	6970	6530	11500	14300	17400	11700	15600	18000	10400	9430
23	3770	2800	6160	6630	12200	15600	17900	15500	15800	18200	8000	11800
24	4110	2860	7240	7970	12800	14400	11600	11100	17100	13300	5940	5280
25	4490	3050	7060	9680	14300	17400	15400	9870	19200	20200	5160	5300
26	7110	3190	5160	6590	15100	16000	16800	9780	13000	20400	9840	9030
27	6840	3120	6530	5210	10100	10400	17200	13000	17700	18700	8880	10500
28	6050	3580	7630	7970	13200	15300	14600	16400	19900	16900	9610	9070
29	5440	5960	6610	8010	---	12600	14700	11900	17900	16600	16200	9410
30	5260	7520	6570	6280	---	13300	16000	14300	15500	18600	18800	8350
31	5100	---	6260	7450	---	14200	---	14300	---	13900	15500	---
TOTAL	206970	144900	231740	153370	315880	423400	487900	398300	461000	550700	397170	276560
MEAN	6676	4830	7475	4947	11280	13660	16260	12850	15370	17760	12810	9219
MAX	9810	7520	10800	9680	15100	17400	18800	16800	19900	20600	20400	16400
MIN	2010	2800	4180	2160	7740	10200	10000	8740	11700	12100	2250	5280
AC-FT	410500	287400	459700	304200	626500	839800	967700	790000	914400	1092000	787800	548600
CAL YR 1976	TOTAL	3926880	MEAN	10730	MAX	20300	MIN	2010	AC-FT	7789000		
WTR YR 1977	TOTAL	4047890	MEAN	11090	MAX	20600	MIN	2010	AC-FT	8029000		

09423000 COLORADO RIVER BELOW DAVIS DAM, AZ-NV--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--July 1969 to current year.

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (CA, MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)
OCT												
01...	0915	2720	1070	7.8	19.0	340	210	86	30	100	2.4	4.9
NOV												
01...	0900	9400	1070	8.1	17.5	330	200	80	31	100	2.4	4.8
DEC												
01...	0900	13190	1080	8.0	14.0	320	200	78	31	100	2.4	5.1
JAN												
03...	1130	4820	1040	8.2	11.0	310	190	76	29	100	2.5	5.0
FEB												
01...	1030	13800	1080	8.2	10.5	320	190	82	28	100	2.4	4.7
MAR												
01...	1230	14300	1080	8.2	12.5	330	190	81	30	100	2.4	4.9
APR												
01...	1000	23600	1080	8.4	14.0	330	200	82	31	100	2.4	4.7
MAY												
02...	1320	21100	1060	8.2	14.5	330	200	83	30	100	2.4	4.6
JUN												
01...	0930	17200	1060	8.3	17.5	330	200	83	29	100	2.4	4.7
JUL												
01...	0740	23000	1060	7.5	19.0	320	200	81	29	100	2.4	4.5
AUG												
01...	0845	26480	1060	7.7	21.0	310	190	78	28	100	2.5	4.6
SEP												
01...	0800	17640	1070	7.7	19.0	320	190	82	29	100	2.4	4.6

DATE	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SiO2) (MG/L)	DIS- SOLVED SOLIDS (REST- DUE AT 180 C) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITU- ENTS) (MG/L)	DIS- SOLVED SOLIDS (TONS PER AC-FT)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED BORON (B) (UG/L)	DIS- SOLVED IRON (FE) (MG/L)
OCT												
01...	151	0	300	84	.4	8.2	704	690	.96	.48	130	20
NOV												
01...	153	0	300	85	.3	8.3	713	686	.97	.26	130	10
DEC												
01...	144	0	310	89	.3	9.3	710	696	.97	.50	140	0
JAN												
03...	147	0	290	91	.3	8.7	727	674	.99	.20	130	10
FEB												
01...	159	0	280	91	.3	7.9	714	673	.97	.15	130	0
MAR												
01...	161	0	300	94	.5	8.1	709	699	.96	.20	130	0
APR												
01...	160	2	280	87	.5	8.2	711	675	.97	.19	130	10
MAY												
02...	160	0	280	82	.4	7.9	694	668	.94	.28	120	20
JUN												
01...	160	0	280	84	.4	7.6	690	669	.94	.22	130	10
JUL												
01...	150	0	290	85	.3	8.5	692	672	.94	--	130	0
AUG												
01...	150	0	280	91	.4	8.8	699	665	.95	--	130	20
SEP												
01...	160	0	280	88	.3	9.2	687	672	.93	--	140	10

09423500 COLORADO RIVER AT NEEDLES, CA

LOCATION.--Lat 34°51'06", long 114°36'33", in SE¼SE¼ sec.19, T.9 N., R.23 E., San Bernardino meridian, San Bernardino County, Hydrologic Unit 15030101, on right bank at Needles, 15 mi (24 km) upstream from gaging station near Topock, Ariz., 30 mi (48 km) downstream from Davis Dam, and 97 mi (156 km) downstream from Hoover Dam.

DRAINAGE AREA.--174,500 mi<sup>2</sup> (452,000 km<sup>2</sup>), approximately, including 3,959 mi<sup>2</sup> (10,254 km<sup>2</sup>) in Great Divide basin in southern Wyoming, which is noncontributing (previously considered part of the Missouri River basin).

PERIOD OF RECORD.--April 1931 to current year (elevations only).

REVISED RECORDS.--WSP 1119: 1931-47.

GAGE.--Water-stage recorder. Datum of gage is 400.00 ft (121.920 m) above mean sea level. Prior to May 15, 1942, at site 550 ft (170 m) downstream and May 15, 1942, to Feb. 16, 1969, at site 200 ft (60 m) upstream; at datum 66.23 ft (20.187 m) higher prior to Jan. 12, 1952, and at present datum thereafter.

REMARKS.--Flow regulated by Lake Mead since Feb. 1, 1935, and by Lake Mohave since Jan. 17, 1950.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation, 475.77 ft (145.015 m) Nov. 30, 1944; minimum, 457.84 ft (139.550 m) Feb. 26, 1973.

EXTREMES FOR CURRENT YEAR.--Maximum elevation, 470.53 ft (143.418 m) Sept. 23, 24; minimum, 458.66 ft (139.800 m) Jan. 15.

MEAN ELEVATION, IN FEET,, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FFB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	465.44	461.28	460.59	461.02	462.71	464.46	466.14	465.23	465.56	464.59	466.78	466.43
2	459.48	461.16	463.15	460.59	463.17	464.06	466.50	465.10	465.49	467.23	467.67	465.75
3	459.30	461.08	463.53	460.66	463.74	464.01	465.15	466.20	465.62	466.51	467.00	464.15
4	460.55	461.04	463.74	460.79	463.73	464.24	464.87	466.19	466.41	466.69	466.74	463.15
5	462.73	461.02	461.94	459.93	463.71	463.09	466.05	466.22	466.03	467.53	466.99	464.57
6	463.26	461.32	462.06	459.64	463.03	464.02	466.95	466.76	465.94	468.26	467.23	465.55
7	462.98	461.10	462.98	459.63	463.08	463.47	466.60	466.07	466.14	467.18	465.79	464.20
8	462.88	461.29	462.47	---	464.66	463.96	467.40	465.14	465.86	466.59	467.27	462.95
9	463.96	462.41	462.81	---	464.42	463.91	467.32	465.05	465.46	468.44	466.99	462.05
10	463.42	461.41	462.58	---	463.88	465.40	465.74	464.98	465.96	465.54	466.12	462.48
11	462.81	461.26	462.76	---	463.54	466.09	466.21	464.94	465.58	466.56	466.65	462.43
12	463.17	461.59	461.82	---	464.52	466.46	467.26	464.77	464.93	467.04	467.30	462.17
13	463.16	461.25	462.22	---	463.60	465.28	467.21	463.41	464.87	466.80	467.59	461.41
14	462.41	460.89	463.12	---	462.84	464.90	467.56	463.43	465.35	466.33	466.11	461.46
15	462.91	460.46	463.41	458.68	464.25	466.16	467.47	463.08	465.17	466.82	466.13	461.11
16	461.93	461.03	462.33	458.87	464.11	466.20	467.06	463.79	464.95	467.02	465.18	460.93
17	462.36	---	461.60	460.16	464.01	466.16	465.93	462.85	464.90	466.14	461.22	461.36
18	462.22	---	462.07	460.16	463.85	466.84	466.16	462.69	465.45	466.73	459.60	462.04
19	462.47	---	461.73	460.56	464.54	466.31	466.87	463.99	464.93	467.70	459.26	463.32
20	462.40	---	460.96	460.51	464.15	465.07	467.40	465.89	465.14	466.56	459.36	464.17
21	462.28	---	461.08	461.85	463.60	464.94	467.17	466.13	466.35	466.05	460.40	464.38
22	462.31	---	460.98	461.91	464.37	465.73	467.01	---	466.00	466.64	460.81	463.73
23	461.21	---	461.66	461.78	464.19	465.99	467.19	---	466.09	467.21	463.08	463.41
24	460.36	---	461.68	461.57	464.84	465.83	465.57	---	466.41	466.17	461.71	463.31
25	460.37	---	461.96	463.03	464.94	466.34	465.40	---	467.30	466.54	460.89	460.86
26	460.96	---	461.24	462.42	466.14	466.59	466.61	---	465.36	468.19	461.72	461.64
27	462.12	---	461.30	461.46	464.82	465.10	466.71	463.97	466.33	467.55	463.25	462.88
28	461.89	---	461.77	461.46	464.31	464.57	466.53	466.02	467.54	467.27	463.10	463.48
29	461.48	---	462.08	462.04	---	465.44	465.39	465.25	466.84	466.86	465.09	462.97
30	461.06	---	461.57	462.13	---	464.91	466.29	464.98	465.81	466.95	467.61	462.77
31	460.99	---	461.50	461.49	---	465.22	---	465.43	---	466.13	466.40	---
MEAN	462.09	---	462.09	---	464.03	465.19	466.52	---	465.79	466.83	464.55	463.04
MAX	465.44	---	463.74	---	464.14	466.84	467.56	---	467.54	468.44	467.67	466.43
MIN	459.30	---	460.59	---	462.71	463.09	464.87	---	464.87	464.59	459.26	460.86

## COLORADO RIVER MAIN STEM

09424000 COLORADO RIVER NEAR TOPOCK, AZ

LOCATION.--Lat 34°41'15", long 114°27'43", in SW¼ sec.13, T.15 N., R.21 W., Gila and Salt River meridian, Mohave County, Hydrologic Unit 15030101, on left bank in Mohave Canyon, 2.4 mi (3.9 km) southeast of Topock, 39 mi (63 km) upstream from Parker Dam, and 45 mi (72 km) downstream from Davis Dam.

DRAINAGE AREA.--176,300 mi<sup>2</sup> (456,600 km<sup>2</sup>), approximately, including 3,959 mi<sup>2</sup> (10,254 km<sup>2</sup>) in Great Divide basin in southern Wyoming, which is noncontributing (previously considered part of the Missouri River basin).

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1917 to current year. Daily mean elevations published since October 1938.

REVISED RECORDS.--WSP 918: 1921. WSP 1313: 1918-19(M).

GAGE.--Water-stage recorder. Datum of gage is 423.02 ft (128.936 m) above mean sea level; gage reading have been reduced to elevations above mean sea level. Prior to Dec. 3, 1922, at site about 1 mi (2 km) upstream at different datum.

REMARKS.--Records good above 10,000 ft<sup>3</sup>/s (280 m<sup>3</sup>/s), and fair below. Many diversions above station for irrigation, municipal, and industrial uses. Flow regulated by Lake Mead since Feb. 1, 1935, and by Lake Mohave since Jan. 17, 1950.

AVERAGE DISCHARGE.--17 years (water years 1918-34), 20,260 ft<sup>3</sup>/s (573.8 m<sup>3</sup>/s), 14,670,000 acre-ft/yr (18,100 km<sup>3</sup>/yr); 43 years (water years 1935-77), 12,800 ft<sup>3</sup>/s (362.5 m<sup>3</sup>/s), 9,274,000 acre-ft/yr (11,400 km<sup>3</sup>/yr), unadjusted.

EXTREMES FOR PERIOD OF RECORD.--1917-34: Maximum discharge probably exceeded 200,000 ft<sup>3</sup>/s (5,660 m<sup>3</sup>/s) June 22, 1921; minimum, 1,480 ft<sup>3</sup>/s (41.9 m<sup>3</sup>/s) Aug. 17, 1934.  
1934-77: Maximum discharge, 35,700 ft<sup>3</sup>/s (1,010 m<sup>3</sup>/s) Jan. 29, 1942; maximum elevation, 457.37 ft (139.406 m) July 9, 1959; minimum discharge, 375 ft<sup>3</sup>/s (10.6 m<sup>3</sup>/s) Feb. 14, 1935; minimum daily, 422 ft<sup>3</sup>/s (12.0 m<sup>3</sup>/s) Feb. 14, 1935.  
Discharge of about 300,000 ft<sup>3</sup>/s (8,500 m<sup>3</sup>/s), based on determination at Lees Ferry gaging station, occurred about July 10, 1884. Discharge estimated to be in excess of 400,000 ft<sup>3</sup>/s (11,300 m<sup>3</sup>/s) probably occurred within the period 1857-68 and most likely in 1862.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 20,800 ft<sup>3</sup>/s (589 m<sup>3</sup>/s) July 27, elevation, 455.99 ft (138.986 m); minimum daily, 2,020 ft<sup>3</sup>/s (57.2 m<sup>3</sup>/s) Jan. 10; minimum elevation, 448.45 ft (136.688 m) Jan. 16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3760	4980	6960	6030	7130	12300	13900	14800	13000	16100	15300	15200
2	2400	5670	8070	4620	8600	11200	15000	12200	13200	18000	18000	15300
3	2210	5160	8580	5690	9170	11200	14400	14500	13500	17600	17300	12100
4	2350	5210	9670	4760	10000	10800	11000	14900	14600	15900	16600	8880
5	6690	5080	7620	4370	10100	10300	13800	15200	14600	18200	16600	9300
6	7890	5060	5560	3320	9550	11000	15000	16200	14000	19400	17300	13700
7	7430	5570	7950	3300	7830	10200	15800	16100	14600	18300	16400	11600
8	7490	4910	7850	2760	11200	10700	16000	14600	14100	16300	15400	8500
9	8750	6760	7780	2210	11500	10700	17200	12400	13900	18700	17600	8000
10	8280	6480	7480	2020	10700	12100	15700	12900	14000	16900	16100	7160
11	7450	5140	7680	2180	9690	14200	13200	12300	14300	14600	15400	7600
12	8580	5210	6670	3000	11200	15000	16200	12500	13700	17400	17000	7450
13	7800	5930	6290	2300	11000	14900	16800	11100	11800	17100	18200	5950
14	6760	4780	8170	2530	7910	11300	17100	9480	13400	16000	16900	6070
15	7560	3920	9120	2200	11300	14100	17100	9050	13400	16200	14300	5520
16	6400	4150	7870	2130	10800	14500	16200	10000	13400	17100	16000	5100
17	6760	4830	6460	3000	11000	14600	16200	8780	12800	16600	7800	5540
18	6400	4490	6880	4230	10300	15200	13500	8100	13900	15000	4040	6260
19	6720	4550	6620	4450	11300	15200	15600	9050	14100	18200	3120	7560
20	6860	4130	5230	4250	11900	14400	16400	12600	12200	17300	2880	10100
21	6570	3620	5590	5880	9620	11100	17200	14400	14800	15300	4660	11000
22	6820	3500	4380	7280	11500	13800	16300	13500	15300	15400	3640	10500
23	5720	3270	6280	6330	10900	13600	16500	11500	14700	17100	8800	9000
24	3990	2900	6000	6060	11800	14200	15800	14300	15300	16500	7200	10600
25	3910	2880	6660	7530	12200	14000	12700	10900	16700	14400	5690	5520
26	4040	3000	6390	8530	13900	15600	14700	9300	15900	18400	5690	5140
27	6200	2620	5200	6360	13800	14500	15700	9680	13500	18600	9220	7960
28	6220	2690	6060	5440	10900	10700	15800	12700	16800	17900	8980	9600
29	6090	3140	7000	7050	---	13500	14200	14000	17500	16500	10500	8750
30	5250	5120	6200	7220	---	12200	14900	11500	16200	16400	16000	8750
31	5250	---	6180	6180	---	12600	---	13000	---	16500	16500	---
TOTAL	188600	134750	214450	143210	296800	399700	459900	381540	429200	523900	379120	263710
MEAN	6084	4492	6918	4620	10600	12890	15330	12310	14310	16900	12230	8790
MAX	8750	6760	9670	8530	13900	15600	17200	16200	17500	19400	18200	15300
MIN	2210	2620	4380	2020	7130	10200	11000	8100	11800	14400	2880	5100
AC-FT	374100	267300	425400	284100	588700	792800	912200	756800	851300	1039000	752000	523100

CAL YR 1976 TOTAL 3690950 MEAN 10080 MAX 18600 MIN 1950 AC-FT 7321000  
WTR YR 1977 TOTAL 3814880 MEAN 10450 MAX 19400 MIN 2020 AC-FT 7567000

NOTE.--Discharge for period Oct. 1 to Nov. 10 computed from record obtained at former supplementary gage 4.5 mi upstream at Topock bridge.



## COLORADO RIVER MAIN STEM

37

09424000 COLORADO RIVER NEAR TOPOCK, AZ--Continued

MEAN ELEVATION, IN FEET,, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		---	450.91	450.59	450.95	452.92	453.58	453.99	454.01	454.44	454.19	454.02
2		---	451.40	450.04	451.60	452.50	454.07	453.28	454.07	455.08	455.10	454.05
3		---	451.61	450.58	451.83	452.52	453.85	454.01	454.13	454.94	454.85	453.18
4		---	452.03	450.20	452.15	452.36	452.63	454.14	454.45	454.37	454.61	452.10
5		---	451.16	450.04	452.17	452.15	453.65	454.24	454.42	455.17	454.62	452.25
6		---	450.18	449.63	451.95	452.45	454.07	454.55	454.24	455.56	454.85	453.65
7		---	451.33	449.61	451.24	452.17	454.33	454.50	454.40	455.19	454.56	452.99
8		---	451.27	449.46	452.55	452.35	454.42	454.13	454.28	454.52	454.22	451.95
9		---	451.26	449.24	452.67	452.32	454.81	453.62	454.18	455.34	454.96	451.75
10		---	451.12	449.25	452.34	452.90	454.30	453.84	454.24	454.71	454.45	451.43
11		450.17	451.37	449.27	451.97	453.65	453.45	453.69	454.28	453.94	454.21	451.62
12		450.24	450.62	449.47	452.53	453.93	454.49	453.87	454.11	454.88	454.76	451.55
13		450.65	450.56	449.18	452.44	453.86	454.70	453.41	453.57	454.79	455.14	450.90
14		450.07	451.43	449.23	451.21	452.59	454.77	452.97	454.02	454.42	454.71	450.99
15		449.63	451.81	448.84	452.53	453.63	454.77	452.85	453.99	454.49	453.83	450.75
16		449.79	451.29	448.58	452.35	453.79	454.49	453.12	453.99	454.78	454.39	450.56
17		450.19	450.64	449.07	452.43	453.81	454.47	452.73	453.81	454.62	451.95	450.76
18		450.01	450.85	449.37	452.18	454.04	453.56	452.49	454.08	454.07	450.86	451.07
19		450.04	450.74	449.60	452.55	454.04	454.28	452.83	454.12	455.15	450.60	451.61
20		449.81	450.04	449.48	452.76	453.74	454.56	453.84	453.57	454.84	450.44	452.46
21		449.51	450.24	450.35	451.92	452.59	454.82	454.26	454.32	454.17	450.80	452.73
22		449.44	449.60	451.03	452.62	453.56	454.53	454.00	454.42	454.20	450.38	452.56
23		449.29	450.60	450.58	452.42	453.53	454.59	453.43	454.25	454.79	452.10	452.04
24		449.04	450.47	450.45	452.75	453.73	454.34	454.22	454.40	454.57	451.59	452.53
25		448.98	450.81	451.15	452.88	453.68	453.27	453.28	454.80	453.87	451.07	450.62
26		449.02	450.66	451.56	453.48	454.24	453.98	452.87	454.53	455.22	450.90	450.43
27		448.61	450.07	450.59	453.43	453.85	454.31	452.99	453.81	455.29	452.05	451.61
28		448.71	450.53	450.12	452.39	452.50	454.36	453.93	454.76	455.06	451.85	452.16
29		448.96	450.99	450.93	---	453.54	453.77	454.30	454.92	454.59	452.45	451.85
30		450.05	450.67	451.00	---	453.08	454.04	453.56	454.49	454.55	454.33	451.83
31		---	450.65	450.50	---	453.22	---	453.96	---	454.57	454.47	---
MEAN	---	---	450.87	449.97	452.30	453.20	454.18	453.64	454.22	454.72	453.20	451.93
MAX	---	---	452.03	451.56	453.48	454.24	454.82	454.55	454.92	455.56	455.14	454.05
MIN	---	---	449.60	448.58	450.95	452.15	452.63	452.49	453.57	453.87	450.38	450.43

NOTE.--Elevations not available for period Oct. 1 to Nov. 10.

## COLORADO RIVER MAIN STEM

09424000 COLORADO RIVER NEAR TOPOCK, AZ--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--August 1969 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: July 1952 to July 1962.

INSTRUMENTATION.--Water temperature recorder from July 1952 to July 1962.

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPECIFIC CONDUCTANCE (MICRO- MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	HARDNESS (CA, MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG)	DISSOLVED SODIUM (NA) (MG/L)	SODIUM ADSORPTION RATIO	DISSOLVED POTASSIUM (K) (MG/L)
OCT												
01...	1300	5310	1070	8.0	19.0	330	200	84	29	100	2.4	4.9
NOV												
05...	1200	6540	1080	8.3	18.0	330	220	80	32	100	2.4	5.0
DEC												
01...	1400	6550	1090	8.2	14.0	330	210	81	30	100	2.4	5.0
JAN												
03...	1345	6670	1080	8.2	12.0	320	200	79	30	100	2.4	5.1
FEB												
01...	1410	7350	1090	8.2	11.0	320	200	82	29	100	2.4	4.8
MAR												
01...	1630	10600	1090	8.2	13.0	330	190	81	30	100	2.4	5.0
APR												
01...	1400	11700	1090	8.4	14.0	330	190	82	30	100	2.4	4.7
MAY												
02...	0915	14000	1060	8.3	15.5	330	200	83	30	100	2.4	4.6
JUN												
01...	1330	12600	1060	8.3	18.0	330	200	84	29	100	2.4	4.6
JUL												
01...	1420	14700	1070	7.7	20.0	310	190	77	29	100	2.5	4.5
AUG												
01...	1025	14760	1070	7.7	19.0	320	190	79	29	110	2.7	4.6
SEP												
01...	1300	13450	1070	7.7	19.0	320	190	82	29	96	2.3	4.5

DATE	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	DISSOLVED FLUORIDE (F) (MG/L)	DISSOLVED SILICA (SiO2) (MG/L)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DISSOLVED SOLIDS (TONS PER AC-FT)	DISSOLVED NITRATE PLUS NITRATE (N) (MG/L)	DISSOLVED BORON (B) (UG/L)	DISSOLVED IRON (FE) (UG/L)
OCT												
01...	154	0	290	89	.3	9.9	656	685	.89	.42	130	10
NOV												
05...	141	0	300	86	.4	7.4	688	681	.94	.15	130	20
DEC												
01...	144	0	310	89	.6	8.8	690	696	.94	.19	130	10
JAN												
03...	147	0	290	90	.3	8.3	686	674	.93	.17	130	10
FEB												
01...	157	0	300	91	.4	7.6	704	693	.96	.15	130	0
MAR												
01...	162	0	290	91	.4	8.5	698	687	.95	.25	130	0
APR												
01...	160	2	290	84	.4	7.8	700	681	.95	.16	130	30
MAY												
02...	160	0	270	82	.4	7.7	--	658	.89	.27	130	10
JUN												
01...	160	0	280	84	.3	7.5	678	669	.92	.20	130	10
JUL												
01...	150	0	290	85	.3	8.5	680	668	.92	--	130	0
AUG												
01...	160	0	290	88	.3	8.1	676	688	.92	--	130	20
SEP												
01...	160	0	290	88	.4	9.4	682	678	.93	--	140	20

## 09424150 COLORADO RIVER AQUEDUCT NEAR PARKER DAM, AZ-CA

LOCATION.--Lat 34°18'58", long 114°09'23", in NW¼SW¼ sec.28, T.3 N., R.27 E., San Bernardino meridian, in California, San Bernardino County, Hydrologic Unit 15030101, at intake pumping plant of Metropolitan Water District of Southern California on Lake Havasu, 1.8 mi (2.9 km) upstream from Parker Dam and 149 mi (240 km) downstream from Hoover Dam.

PERIOD OF RECORD.--January 1939 to current year (monthly diversions only since October 1942). Published as a supplement to records for Colorado River below Parker Dam, 1942-50. Percolation return flow (monthly flow only) October 1964 to September 1973 (discontinued); prior to October 1964 miscellaneous measurements only.

GAGE.--Venturi meters in pressure lines at intake pumping plant.

REMARKS.--Pumping began Jan. 7, 1939. Figures of monthly diversion shown represent water pumped from Lake Havasu less return surface flow from Gene and Copper Basin Reservoirs. No water returned as surface flow from these reservoirs this year. Percolation return flow from Gene and Copper Basin Reservoirs is estimated by the U.S. Bureau of Reclamation as 14 acre-ft/day (17,300 m<sup>3</sup>/day) Oct. 1 to Feb. 28 and 10 acre-ft/day (12,300 m<sup>3</sup>/day) Mar. 1 to Sept. 30 for a yearly total of 4,254 acre-ft (5.25 hm<sup>3</sup>) which is used for accounting purposes.

COOPERATION.--Diversion records furnished by Metropolitan Water District of Southern California.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily diversion, 3,986 acre-ft (4.91 hm<sup>3</sup>), 2,010 ft<sup>3</sup>/s (56.9 m<sup>3</sup>/s) Oct. 25, 1970; no diversion at times.

## MONTHLY DIVERSTIONS, IN ACRE-FEET, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

Month	Diversions			
	Maximum	Minimum	Mean	Total
October.....	1,981	1,344	1,695	52,544
November.....	1,431	1,025	1,364	40,925
December.....	1,964	1,312	1,672	51,829
CAL YR 1976.....	3,294	0	2,205	804,876
January.....	3,248	851	1,896	58,773
February.....	3,823	3,222	3,513	98,374
March.....	3,838	3,478	3,724	115,429
April.....	3,874	3,290	3,706	111,187
May.....	3,845	3,709	3,787	117,385
June.....	3,853	3,616	3,794	113,817
July.....	3,854	3,808	3,833	118,822
August.....	3,841	3,075	3,706	114,887
September.....	3,819	0	3,019	90,563
WTR YR 1977.....	3,874	0	2,971	1,084,535

09424150 COLORADO RIVER AQUEDUCT NEAR PARKER DAM, ARIZ.-CA--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1966 to current year.

REMARKS.--Records of discharge were furnished by Metropolitan Water District of Southern California.

COOPERATION.--Chemical-quality records were furnished by California Department of Water Resources.

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (JTU)	NON-CARBONATE HARDNESS (MG/L)	DIS-SOLVED CALCIUM (CA) (MG/L)	DIS-SOLVED MAGNESIUM (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	PERCENT SODIUM	SODIUM ADSORPTION RATIO	DIS-SOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)
NOV 01...	1050	8.1	20.0	<1	200	78	29	100	42	2.5	5.0	140
DEC 12...	1080	8.0	12.2	<1	210	83	30	110	41	2.6	5.0	150
JAN 10...	1090	8.2	10.0	2	210	82	32	110	40	2.6	5.0	160
FEB 08...	1080	8.4	11.1	1	210	81	32	110	41	2.6	5.0	150
MAR 07...	1080	8.3	13.5	<1	200	83	30	100	40	2.4	5.0	160
APR 05...	1080	8.5	15.0	2	210	84	31	100	40	2.4	5.0	160
MAY 02...	1060	8.4	22.0	<1	200	82	30	100	40	2.4	5.0	160
JUN 06...	1060	8.5	27.0	2	200	80	30	100	41	2.4	5.0	150
JUL 12...	1050	8.5	27.0	<1	200	79	30	100	41	2.4	5.0	140
AUG 15...	1040	8.4	28.0	<1	200	76	30	100	41	2.5	4.0	140
SEP 13...	1040	8.4	27.0	<1	200	76	30	100	41	2.5	5.0	130

DATE	CARBONATE (CO3) (MG/L)	ALKALINITY AS CaCO3 (MG/L)	CARBON DIOXIDE (CO2) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLORIDE (CL) (MG/L)	DIS-SOLVED FLUORIDE (F) (MG/L)	DIS-SOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	DIS-SOLVED NITRATE (N) (MG/L)	DIS-SOLVED NITRATE (NO3) (MG/L)
NOV 01...	0	120	1.8	290	89	.2	675	670	.92	1310	.11	.50
DEC 12...	0	120	2.4	300	94	.4	707	706	.96	1680	.12	.55
JAN 10...	0	130	1.6	290	93	.4	700	702	.95	813	.09	.40
FEB 08...	2	130	1.0	300	91	.3	701	705	.95	3290	.07	.30
MAR 07...	0	130	1.3	300	90	.3	697	697	.95	3590	.02	.10
APR 05...	0	130	.8	300	89	.3	702	698	.95	3580	.03	.12
MAY 02...	0	130	1.0	290	89	.3	686	683	.93	3540	.07	.30
JUN 06...	1	130	.8	290	89	.4	681	678	.93	3490	.05	.20
JUL 12...	0	120	.7	290	91	.4	682	673	.93	3570	.05	.20
AUG 15...	0	110	.9	290	95	.3	678	672	.92	3530	--	--
SEP 13...	5	110	.9	280	95	.3	670	664	.91	--	.00	.00

09424190 COLORADO RIVER AQUEDUCT NEAR SAN JACINTO, CA  
(National stream-quality accounting network station)

## WATER-QUALITY RECORDS

LOCATION.--Lat 33°49'18", long 116°58'01", in NE¼ sec.15, T.4 S., R.1 W., San Bernardino County, at west portal of San Jacinto Tunnel, 1.7 mi (2.8 km) southeast of Gilman Hot Springs, and 2.5 mi (40 km) north of San Jacinto.

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

CHEMICAL ANALYSES: Water year 1975 to current year.

SEDIMENT RECORDS: Water year 1975 to current year (partial-record station).

REMARKS.--Discharge values were furnished by Metropolitan Water District from the aqueduct records.

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICRO-MHOS)	TEMPERATURE (DEG C)	DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICRO-MHOS)	TEMPERATURE (DEG C)
OCT					DEC				
04...	0700	925	1050	23.0	09...	0650	924	1070	13.0
05...	0650	925	1040	23.5	09...	0900	924	1040	13.0
06...	0710	960	1060	23.5	12...	0650	924	1070	12.0
07...	0650	943	1060	22.0	14...	0655	911	1060	13.0
11...	0710	936	1070	22.0	15...	0645	920	1060	13.0
12...	0650	940	1050	22.0	16...	0655	920	1060	13.0
13...	0650	940	1060	22.0	20...	0830	911	1060	12.0
14...	0650	940	1050	22.0	21...	0830	909	1060	12.0
18...	0705	940	1060	22.0	22...	0815	909	1060	12.0
19...	0650	940	1050	22.0	23...	0820	909	1070	12.0
22...	1115	930	1050	22.5	27...	0820	683	1070	12.0
26...	0684	684	1030	21.0	28...	0830	690	1070	12.0
27...	0684	684	1050	21.0	JAN				
28...	0687	687	1040	19.0	03...	0705	690	1060	11.0
29...	0687	687	1040	18.0	04...	0700	690	1060	11.0
NOV					05...	0655	707	1060	11.0
01...	0637	637	1030	19.0	06...	0645	456	1060	11.0
02...	0645	678	1040	19.0	10...	0700	452	1060	10.0
03...	0650	653	1040	19.0	11...	0650	452	1060	10.0
04...	0645	653	1040	19.0	12...	0655	452	1060	10.0
08...	0700	686	1040	19.0	12...	1000	452	1060	10.0
09...	0650	673	1030	19.0	13...	0700	910	1080	10.0
10...	0645	705	1030	19.0	17...	0650	1150	1090	11.0
11...	0650	717	1040	18.0	18...	0650	1150	1080	11.0
15...	0705	705	1040	18.0	19...	1520	1120	1080	11.0
16...	0650	687	1040	18.0	20...	0645	1140	1090	11.0
17...	0650	687	1040	18.0	24...	0700	1120	1080	12.0
18...	0650	687	1040	18.0	25...	0650	1120	1080	11.5
22...	0705	657	1040	18.0	26...	0650	1120	1080	12.0
23...	0650	675	1040	18.0	27...	0650	1510	1080	12.0
24...	0645	675	1040	17.0	31...	0700	1250	1080	12.0
24...	0930	675	1020	17.0	FEB				
29...	0655	674	1070	12.0	01...	0650	1300	1080	12.0
30...	0705	674	1070	12.0	02...	0650	1700	1080	12.0
DEC					03...	0650	1680	1080	11.0
01...	0700	674	1060	12.0	07...	0700	1680	1080	11.0
02...	0700	674	1070	12.0	08...	0650	1680	1080	12.0
06...	0650	933	1070	14.0	09...	0650	1680	1080	12.0
07...	0655	924	1070	14.0	10...	0650	1680	1080	12.0
08...	0650	924	1070	14.0	11...	1000	1690	1080	12.0

## COLORADO RIVER MAIN STEM

09424190 COLORADO RIVER AQUEDUCT NEAR SAN JACINTO, CA--Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	TEMPER- ATURE (DEG C)	DATE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	TEMPER- ATURE (DEG C)
FEB					APR				
14...	0700	1680	1090	11.5	18...	0700	1710	1080	18.0
15...	0650	1680	1090	11.5	20...	0645	1690	1080	18.5
16...	0650	1680	1110	13.0	21...	0640	1690	1090	18.0
17...	0650	1680	1090	13.0	25...	0700	1870	1090	18.5
21...	0700	1680	1100	13.5	26...	0650	1870	1070	19.0
22...	0700	1680	1080	13.5	26...	1030	1870	1090	20.5
23...	0650	1680	1100	13.5	27...	0655	1870	1070	19.5
24...	0645	1660	1100	13.5	28...	0645	1880	1080	19.0
28...	0700	1690	1090	13.5	MAY				
MAR					02...	0650	1860	1080	18.5
01...	0650	1690	1080	13.5	03...	1700	1860	1070	19.5
02...	0650	1700	1100	13.5	05...	0650	1870	1060	20.0
03...	0650	1830	1080	13.5	06...	0650	1860	1070	20.0
07...	1230	1820	1100	14.5	09...	0650	1870	1070	19.0
08...	0650	1820	1080	14.5	10...	0700	1870	1070	19.0
09...	0650	1820	1100	15.0	11...	0645	1880	1060	19.0
10...	0645	1830	1100	14.5	12...	0645	1880	1060	19.0
14...	0645	1830	1090	13.5	16...	0650	1870	1070	20.0
15...	0650	1850	1100	13.5	17...	0700	1880	1070	20.0
16...	0650	1860	1090	13.5	18...	0645	1890	1060	19.0
17...	0650	1830	1100	13.5	19...	0650	1890	1080	19.5
21...	0700	1850	1100	14.5	21...	0700	1900	1070	23.5
22...	0650	1850	1090	14.5	22...	0645	1900	1070	23.5
23...	0650	1850	1090	14.5	23...	0645	1900	1060	23.5
24...	0650	1850	1090	15.5	23...	0650	1860	1080	20.5
28...	0650	1860	1090	14.5	24...	0645	1870	1070	20.5
29...	0640	1860	1070	14.5	24...	1015	1870	1080	20.5
29...	1000	1860	1090	15.5	25...	0645	1870	1080	19.5
30...	0645	1860	1090	14.5	26...	0645	1730	1070	26.0
31...	0650	1860	1060	14.5	26...	0650	1880	1080	20.0
APR					27...	0650	1930	1060	24.0
04...	0650	1860	1090	14.5	31...	0700	1880	1070	22.0
05...	0650	1860	1070	14.5	JUN				
06...	0650	1860	1070	15.5	01...	0645	1900	1080	23.0
07...	0645	1860	1080	15.5	02...	0645	1900	1080	23.0
11...	1220	1860	1060	18.0	03...	0645	1900	1070	23.0
12...	0645	1860	1080	16.5	06...	0700	1900	1070	24.0
13...	0650	1870	1080	16.5	07...	0650	1910	1070	24.0
14...	0645	1870	1090	18.0	08...	0640	1910	1070	24.0
17...	0645	1710	1080	18.5	09...	0645	1910	1070	23.5

09424190 COLORADO RIVER AQUEDUCT NEAR SAN JACINTO, CA--Continued

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	TEMPER- ATURE (DEG C)	DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	TEMPER- ATURE (DEG C)
JUN					AUG				
13...	0645	1900	1070	23.5	18...	0650	1930	1050	25.0
14...	0700	1890	1080	23.5	22...	0645	1720	1060	26.5
15...	0650	1900	1070	23.0	23...	0700	1730	1060	26.5
16...	0700	1890	1070	23.5	24...	0650	1740	1050	25.5
20...	0930	1900	1070	23.5	25...	0645	1720	1050	25.5
22...	0945	1900	1060	25.5	25...	1045	1740	1020	27.5
28...	0650	1920	1070	24.0	29...	0650	1750	1060	25.5
29...	0650	1920	1050	25.0	30...	0650	1730	1060	25.5
30...	0650	1900	1070	25.5	31...	0650	1560	1070	25.5
JUL					SEP				
04...	1130	1900	1070	25.5	01...	0700	1730	1040	25.5
05...	0650	1900	1070	25.0	06...	0650	1920	1070	26.5
06...	0650	1900	1060	24.5	07...	0650	1920	1060	26.5
07...	0650	1890	1070	25.0	08...	0650	1910	1070	26.5
11...	0700	1900	1060	24.5	19...	1530	1360	1060	25.0
12...	0645	1910	1070	25.0	20...	1530	1370	1070	25.0
13...	0645	1890	1070	25.0	21...	0945	1730	1060	25.0
14...	0650	1890	1080	25.0	22...	0650	1730	1060	24.0
18...	0650	1900	1070	26.5	23...	0945	1930	1060	25.5
19...	0650	1910	1070	26.5	26...	0600	1930	1040	24.0
20...	0655	1910	1060	25.5	27...	0645	1930	1060	24.0
21...	0650	1910	1070	25.5	28...	0640	1930	1060	24.0
25...	0650	1910	1070	25.5	30...	1630	1920	1060	24.0
26...	0700	1920	1060	25.5					
27...	0645	1930	1070	26.0					
27...	1000	1930	1060	27.5					
28...	0650	1930	1050	26.0					
29...	0655	1910	1060	26.0					
AUG									
01...	0650	1920	1070	26.5					
02...	0645	1920	1070	26.5					
03...	0650	1920	1060	26.5					
04...	0645	1920	1060	26.5					
08...	0650	1920	1070	26.5					
09...	0650	1910	1070	26.5					
10...	0650	1900	1060	26.5					
11...	0645	1910	1060	26.5					
15...	0650	1910	1060	26.5					
16...	0650	1910	1060	26.5					
17...	0650	1930	1050	26.5					

## COLORADO RIVER MAIN STEM

09424190 COLORADO RIVER AQUEDUCT NEAR SAN JACINTO, CA--Continued  
 CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	PH (UNITS)	TUR- BID- ITY (JTU)	FECAL COLI- FORM .7UM-MF (COL./ 100 ML)	FECAL STREP- TOCOCCI KF AGAR (COL. PER 100 ML)	HARD- NESS (CA,MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)
OCT 22...	1115	930	8.2	1	81	816	310	190	77	29	100
NOV 24...	0930	675	8.3	1	82	89	310	210	76	28	100
DEC 09...	0900	924	8.1	1	80	89	310	200	78	29	100
JAN 12...	1000	452	8.2	1	81	81	340	210	86	30	100
FEB 11...	1000	1690	8.2	1	80	82	340	210	83	31	110
MAR 29...	1000	1860	8.2	2	80	89	340	210	85	31	100
APR 26...	1030	1870	8.0	1	80	82	330	200	80	31	100
MAY 24...	1015	1870	7.9	1	--	88	330	200	83	29	100
JUN 22...	0945	1900	7.8	2	80	87	330	200	85	29	100
JUL 27...	1000	1930	8.0	2	80	816	330	200	83	30	110
AUG 25...	1045	1740	7.8	1	88	28	320	200	78	30	100
SEP 23...	0945	1930	7.7	2	82	31	320	200	80	30	92

DATE	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	ALKA- LINITY AS CACO3 (MG/L)	CARBON DIOXIDE (CO2) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SIO2) (MG/L)
OCT 22...	41	2.5	5.1	149	0	122	1.5	300	90	.3	8.3
NOV 24...	41	2.5	5.3	114	0	94	.9	290	88	.4	7.8
DEC 09...	40	2.5	5.3	142	0	116	1.8	290	90	.4	8.8
JAN 12...	39	2.4	4.9	157	0	129	1.6	290	88	.4	7.8
FEB 11...	41	2.6	5.1	154	0	126	1.6	310	98	.3	7.7
MAR 29...	39	2.4	4.7	157	0	129	1.6	290	93	.4	8.4
APR 26...	39	2.4	4.8	160	0	130	2.6	290	93	.4	6.6
MAY 24...	40	2.4	5.0	160	0	130	3.2	280	85	.4	6.7
JUN 22...	39	2.4	4.8	160	0	130	4.1	280	87	.3	7.7
JUL 27...	42	2.6	4.9	160	0	130	2.6	290	88	.3	8.1
AUG 25...	40	2.4	4.8	150	0	120	3.8	280	93	.3	8.6
SEP 23...	38	2.2	4.8	150	0	120	4.8	290	88	.3	9.0

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



09424190 COLORADO RIVER AQUEDUCT NEAR SAN JACINTO, CA--Continued  
 CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DIS- SOLVED SOLIDS (TONS PER AC-FT)	DIS- SOLVED SOLIDS (TONS PER DAY)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (NO3) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	TOTAL PHYTO- PLANK- TON (CELLS PER ML)
OCT 22...	692	683	.94	1740	.16	.27	.43	1.9	.01	700
NOV 24...	703	652	.96	1280	.15	.00	.15	.66	.03	4600
DEC 09...	713	672	.97	1780	.38	.20	.58	2.6	.03	3200
JAN 12...	716	685	.97	874	.19	.14	.33	1.5	.00	5500
FEB 11...	721	721	.98	3290	.24	.64	.88	3.9	.01	450
MAR 29...	728	690	.99	3660	.13	.54	.67	3.0	.05	--
APR 26...	722	685	.98	3650	.13	.38	.51	2.3	.01	--
MAY 24...	707	668	.96	3570	.15	.22	.37	1.6	.01	2000
JUN 22...	686	673	.93	3520	.12	.54	.66	2.9	.03	26000
JUL 27...	712	693	.97	3710	.31	.45	.76	3.4	.01	7100
AUG 25...	688	669	.94	3230	.11	.49	.60	2.7	.02	300
SEP 23...	681	668	.93	3550	.09	--	--	--	.02	27000

09424190 COLORADO RIVER AQUEDUCT NEAR SAN JACINTO, CA--Continued

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	TOTAL ARSENIC (AS) (UG/L)	SUS- PENDE D ARSENIC (AS) (UG/L)	DIS- SOLVED ARSENIC (AS) (UG/L)	TOTAL CAD- MIUM (CD) (UG/L)	SUS- PENDE D CAD- MIUM (CD) (UG/L)	DIS- SOLVED CAD- MIUM (CD) (UG/L)	TOTAL CHRO- MIUM (CR) (UG/L)	SUS- PENDE D CHRO- MIUM (CR) (UG/L)	DIS- SOLVED CHRO- MIUM (CR) (UG/L)	TOTAL COBALT (CO) (UG/L)	SUS- PENDE D COBALT (CO) (UG/L)
OCT 22...	1115	2	0	2	<10	<9	1	0	0	0	<50	<47
JAN 12...	1000	2	1	1	<10	<10	0	0	0	0	<50	<50
APR 26...	1030	2	2	0	<10	<9	1	0	0	0	<50	<50
JUL 27...	1000	1	--	2	<10	<8	2	0	0	0	<50	<50

DATE	DIS- SOLVED COBALT (CO) (UG/L)	TOTAL COPPER (CU) (UG/L)	SUS- PENDE D COPPER (CU) (UG/L)	DIS- SOLVED COPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	SUS- PENDE D LEAD (PB) (UG/L)	DIS- SOLVED LEAD (PB) (UG/L)	TOTAL MAN- GANESE (MN) (UG/L)	SUS- PENDE D MAN- GANESE (MN) (UG/L)
OCT 22...	3	<10	<8	2	100	20	100	97	3	10	0
JAN 12...	0	<10	<9	1	60	10	<100	<98	2	10	0
APR 26...	0	<10	<6	4	50	10	<100	<99	1	20	20
JUL 27...	0	10	6	4	60	30	<100	<91	9	8	8

DATE	DIS- SOLVED MAN- GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	SUS- PENDE D MERCURY (HG) (UG/L)	DIS- SOLVED MERCURY (HG) (UG/L)	TOTAL SELE- NIUM (SE) (UG/L)	SUS- PENDE D SELE- NIUM (SE) (UG/L)	DIS- SOLVED SELE- NIUM (SE) (UG/L)	TOTAL ZINC (ZN) (UG/L)	SUS- PENDE D ZINC (ZN) (UG/L)	DIS- SOLVED ZINC (ZN) (UG/L)	TOTAL ORGANIC CARBON (C) (MG/L)
OCT 22...	10	--	--	.0	3	0	3	10	0	20	2.9
JAN 12...	10	.0	.0	.0	4	0	4	10	0	20	4.0
APR 26...	0	.0	.0	.0	4	1	3	10	0	10	5.6
JUL 27...	0	.0	.0	.1	4	--	--	30	20	8	6.7

09424190 COLORADO RIVER AQUEDUCT NEAR SAN JACINTO, CA--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE TIME	PHYTOPLANKTON									
	OCT 22,76 1115	NOV 24,76 0930	DEC 9,76 0900	JAN 12,77 1000	FEB 11,77 1000					
TOTAL CELLS/ML	700	4600	3200	5500	450					
DIVERSITY: DIVISION	0.6	1.6	1.1	0.6	1.1					
..CLASS	0.6	1.6	1.1	0.6	1.1					
...ORDER	1.2	2.4	1.9	1.5	1.3					
...FAMILY	2.1	2.8	2.7	1.6	1.6					
....GENUS	2.1	3.0	2.9	1.8	1.7					
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)										
..CHLOROPHYCEAE										
...CHLOROCOCCALES										
....COELASTRACEAE										
.....COELASTRUM	--	-	* 0		--	-	--	-	--	-
....MICRACTINIACEAE										
.....GOLENKINIA	--	-	--	-	--	-	--	-	--	-
....MICRACTINIUM	--	-	--	-	--	-	--	-	--	-
....OOCYSTACEAE										
.....ANKISTRODESMUS	--	-	130	3	--	-	--	-	--	-
....DICTYOSPHAERIUM	--	-	200	4	--	-	28	1	--	-
....FRANCEIA	--	-	--	-	--	-	--	-	--	-
....KIRCHNERIELLA	--	-	--	-	--	-	--	-	--	-
....OOCYSTIS	--	-	58	1	--	-	* 0		--	-
....SELENASTRUM	--	-	--	-	--	-	--	-	--	-
....TETRAEDRON	--	-	* 0		--	-	--	-	--	-
...SCENEDESMACEAE										
....SCENEDESMUS	--	-	580	13	230	7	120	2	34	7
..TETRASPORALES										
...COCCOMYXACEAE										
....ELAKATOTHRIX	--	-	--	-	--	-	--	-	--	-
....PALMELLACEAE										
....GLOEOCYSTIS	--	-	* 0		--	-	--	-	--	-
....SPHAEROCYSTIS	--	-	--	-	--	-	--	-	--	-
..ULOTRICHALES										
...ULOTRICHACEAE										
....HORMIDIUM	--	-	87	2	--	-	--	-	--	-
..VOLVOCALES										
...CHLAMYDOMONADACEAE										
....CHLAMYDOMONAS	--	-	87	2	23	1	--	-	13	3
...VOLVOCAEAE										
....GONIUM	--	-	--	-	--	-	--	-	--	-
..ZYGNEMATALES										
...DESMIDIACEAE										
....STAURASTRUM	--	-	--	-	--	-	--	-	--	-

See footnotes at end of table.

09424190 COLORADO RIVER AQUEDUCT NEAR SAN JACINTO, CA--Continued

## QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

PHYTOPLANKTON										
DATE TIME	MAY 24,77 1015	JUN 22,77 0945	JUL 27,77 1000	AUG 25,77 1045	SEP 23,77 0945					
TOTAL CELLS/ML	2000	26000	7100	300	27000					
DIVERSITY: DIVISION	1.9	0.5	1.6	1.0	1.4					
..CLASS	2.1	0.5	1.8	1.1	1.4					
...ORDER	2.5	0.6	2.2	2.1	2.3					
...FAMILY	3.0	0.6	2.6	2.4	2.6					
....GENUS	3.0	0.6	2.6	2.4	3.2					
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)										
..CHLOROPHYCEAE										
...CHLOROCOCCALES										
...COELASTRACEAE										
...COELASTRUM	--	-	* 0	-	--	-	--	-	--	-
...MICRACITINACEAE										
...GOLENKINIA	--	-	--	-	--	-	--	-	1500	5
...MICRACITINUM	--	-	--	-	200	3	--	-	--	-
...OOCYSTACEAE										
...ANKISTRODESMUS	--	-	--	-	--	-	5	2	340	1
...DICTYOSPHAERIUM	--	-	--	-	--	-	--	-	1600	6
...FRANCEIA	--	-	--	-	--	-	--	-	*	0
...KIRCHNERIELLA	--	-	--	-	--	-	--	-	--	-
...OOCYSTIS	--	-	--	-	230	3	19	6	--	-
...SELENASTRUM	140	7	--	-	--	-	--	-	--	-
...TETRAEDRON	--	-	--	-	* 0	-	--	-	230	1
...SCENEDESMACEAE										
...SCENEDESMUS	120	6	320	1	670	9	57#	19	--	-
...TETRASPORALES										
...COCCOMYXACEAE										
...ELAKATOTHRIX	23	1	--	-	--	-	--	-	--	-
...PALMELLACEAE	--	-	--	-	--	-	--	-	--	-
...GLOEOCYSTIS	--	-	--	-	--	-	--	-	--	-
...SPHAEROCYSTIS	--	-	--	-	--	-	140#	48	--	-
...ULOTRICHALES										
...ULOTRICHACEAE										
...HORMIDIUM	--	-	--	-	--	-	--	-	--	-
...VOLVOCALES										
...CHLAMYDOMONADACEAE										
...CHLAMYDOMONAS	210	10	--	-	340	5	--	-	570	2
...VOLVOCAEAE										
...GONIUM	140	7	--	-	--	-	--	-	--	-
...ZYGNEMATALES										
...DESMIDIACEAE										
...STAUSTRUM	--	-	--	-	--	-	14	5	--	-
CHRYSTOPHYTA										
..BACILLARIOPHYCEAE										
...CENTRALES										
...COSCINODISCACEAE										
...CYCLOTELLA	12	1	--	-	640	9	--	-	2000	8
...MELOSIRA	--	-	--	-	--	-	--	-	--	-
...STEPHANODISCUS	--	-	* 0	-	--	-	--	-	340	1
...PENNALES										
...ACHNANTHACEAE										
...ACHNANTHES	--	-	--	-	--	-	--	-	--	-
...COCCONEIS	--	-	--	-	--	-	--	-	--	-
...CYMBELLACEAE										
...AMPHORA	12	1	--	-	--	-	5	2	--	-
...CYMBELLA	12	1	--	-	--	-	--	-	--	-
...DIATOMACEAE										
...DIATOMA	--	-	--	-	--	-	--	-	--	-
...FRAGILARIACEAE										
...ASTERIONELLA	--	-	--	-	--	-	--	-	--	-
...FRAGILARIA	--	-	200	1	--	-	--	-	--	-
...SYNEDRA	--	-	1000	4	1200#	18	--	-	2700	10
...GOMPHONEMATAEAE										
...GOMPHONEMA	--	-	--	-	--	-	--	-	--	-
...NAVICULACEAE										
...NAVICULA	59	3	* 0	-	* 0	-	24	8	910	3
...PINNULARIA	--	-	--	-	--	-	--	-	--	-
...NITZSCHACEAE										
...NITZSCHIA	23	1	--	-	--	-	--	-	340	1
CHRYSTOPHYCEAE										
CHRYSONOMADALES										
...MALLONADACEAE										
...MALLONAS	--	-	* 0	-	--	-	--	-	--	-
...OCHROMONADACEAE										
...DINORRYON	--	-	390	1	130	2	--	-	340	1
...OCHROMONAS	160	8	--	-	--	-	--	-	--	-

See footnotes at end of table.

09424190 COLORADO RIVER AQUEDUCT NEAR SAN JACINTO, CA--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

## PHYTOPLANKTON

....MELOSIRA	110# 16	-- -	120 4	-- -	-- -	
....STEPHANODISCUS	-- -	800# 17	-- -	-- -	-- -	
..PENNALES						
....ACHNANTHACEAE						
....ACHNANTHES	23 3	150 3	810# 25	200 4	4 1	
....COCCONEIS	-- -	* 0	-- -	* 0	4 1	
....CYMBELLACEAE						
....AMPHORA	-- -	-- -	-- -	-- -	-- -	
....CYMBELLA	23 3	44 1	190 6	28 1	25 6	
....DIATOMACEAE						
....DIATOMA	-- -	* 0	93 3	* 0	4 1	
....FRAGILARIACEAE						
....ASTERIONELLA	-- -	-- -	-- -	* 0	-- -	
....FRAGILARIA	-- -	* 0	46 1	28 1	21 5	
....SYNEDRA	-- -	* 0	-- -	* 0	-- -	
....GOMPHONEMACEAE						
....GOMPHONEMA	-- -	* 0	23 1	-- -	-- -	
....NAVICULACEAE						
....NAVICULA	90 13	58 1	46 1	57 1	4 1	
....PINNULARIA	-- -	-- -	46 1	-- -	-- -	
....NITZSCHACEAE						
....NITZSCHIA	340# 48	58 1	23 1	-- -	13 3	
..CHRYSOPHYCEAE						
....CHRYSONOMADALES						
....MALLOMONADACEAE						
....MALLOMONAS	-- -	-- -	-- -	-- -	-- -	
....OCHROMONADACEAE						
....DINORRYON	-- -	-- -	-- -	-- -	-- -	
....OCHROMONAS	-- -	-- -	-- -	-- -	-- -	
DATE	OCT 22,76	NOV 24,76	DEC 9,76	JAN 12,77	FEB 11,77	
TIME	1115	0930	0900	1000	1000	
ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CYANOPHYTA (BLUE-GREEN ALGAE)						
..CYANOPHYCEAE						
....CHROCCOCCOLES						
....CHROCCOCCOCEAE						
....AGMENELLUM	-- -	-- -	-- -	-- -	-- -	-- -
....ANACYSTIS	-- -	510 11	-- -	2100# 39	-- -	-- -
....HORMOGONALES						
....OSCILLATORIACEAE						
....LYNGBYA	-- -	-- -	-- -	-- -	-- -	-- -
....MICROCOLEUS	-- -	-- -	-- -	2700# 49	-- -	-- -
....OSCILLATORIA	110# 16	1700# 37	370 12	140 3	-- -	-- -
....SPIRULINA	-- -	-- -	23 1	* 0	-- -	-- -
....RIVULARIACEAE						
....RAPHIDIOPSIS	-- -	-- -	-- -	-- -	-- -	-- -
....CHROCCOCCOLES						
....CHROCCOCCOCEAE	-- -	-- -	-- -	-- -	-- -	-- -
....GOMPHOSPHAERIA	-- -	-- -	-- -	-- -	-- -	-- -
EUGLENOPHYTA (EUGLENOIDS)						
..CRYPTOPHYCEAE						
....CRYPTOMONIDALES						
....CRYPTOCHRYSIDACEAE						
....CHROOMONAS	-- -	-- -	23 1	* 0	-- -	-- -
....CRYPTOMONODACEAE	-- -	* 0	-- -	-- -	330# 72	-- -
....CRYPTOMONAS	-- -	-- -	-- -	-- -	-- -	-- -
..EUGLENOPHYCEAE						
....EUGLENALES						
....EUGLENACEAE						
....EUGLENA	-- -	-- -	-- -	-- -	-- -	-- -
....PHACUS	-- -	-- -	-- -	-- -	-- -	-- -
....TRACHELOMONAS	-- -	-- -	-- -	-- -	-- -	-- -
PYRRHOPHYTA (FIRE ALGAE)						
..DINOPHYCEAE						
....PERIDINIALES						
....GLENODINIACEAE						
....GLENODINIUM	-- -	44 1	-- -	-- -	-- -	-- -
....PERIDINIACEAE						
....PERIDINIUM	-- -	-- -	-- -	-- -	-- -	-- -

See footnotes at end of table.

## COLORADO RIVER MAIN STEM

09424190 COLORADO RIVER AQUEDUCT NEAR SAN JACINTO, CA--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

## PHYTOPLANKTON

DATE TIME	MAY 24,77 1015		JUN 22,77 0945		JUL 27,77 1000		AUG 25,77 1045		SEP 23,77 0945	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CYANOPHYTA (BLUE-GREEN ALGAE)										
..CYANOPHYCEAE										
...CHROCCOCCALES										
...CHROCCOCCAEAE										
....AGMENELLUM	--	-	--	-	--	-	--	-	1800	7
....ANACYSTIS	680#	33	*	0	--	-	--	-	7300#	27
...HORMOGONALES										
...OSCILLATORIACEAE										
....LYNGBYA	--	-	--	-	3100#	44	--	-	6300#	23
....MICROCOLEUS	--	-	--	-	--	-	--	-	--	-
....OSCILLATORIA	--	-	--	-	--	-	19	6	680	3
....SPIRULINA	--	-	--	-	--	-	--	-	--	-
...RIVULARIACEAE										
...RAPHIDIOPSIS	--	-	--	-	270	4	--	-	--	-
..CHROCCOCCALES										
...CHROCCOCCAEAE										
....GOMPHOSPHAERIA	--	-	24000#	91	--	-	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)										
..CRYPTOPHYCEAE										
...CRYPTOMONIDALES										
...CRYPTOCHRYSIDACEAE										
...CHROOMONAS	350#	17	--	-	100	1	9	3	--	-
...CRYPTOMONODACEAE										
...CRYPTOMONAS	94	5	--	-	--	-	--	-	--	-
..EUGLENOPHYCEAE										
...EUGLENALES										
...EUGLENACEAE										
....EUGLENA	--	-	--	-	*	0	--	-	--	-
....PHACUS	--	-	*	0	--	-	--	-	--	-
...TRACHELOMONAS	--	-	--	-	--	-	5	2	--	-
PYRRHOPHYTA (FIRE ALGAE)										
..DINOPHYCEAE										
...PERIDINIALES										
...GLENODINIACEAE										
....GLENODINIUM	--	-	--	-	--	-	--	-	--	-
...PERIDINIACEAE										
....PERIDINIUM	--	-	*	0	*	0	--	-	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%

\* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

## PERIPHYTON

Date	Length of exposure (days)	Biomass (g/m <sup>2</sup> )		Chlorophyll <sub>a</sub>	Chlorophyll <sub>b</sub>	Biomass pigment ratio	Sampling method
		Dry weight	Ash weight	(mg/m <sup>2</sup> )	(mg/m <sup>2</sup> )		
Sept. 9, 1976 *	29	10.8	8.77	4.14	0.111	500	Polyethylene strip
July 27, 1977	35	0.0	0.0	0.0	0.001	--	Polyethylene strip

\* Data not previously published.

09424190 COLORADO RIVER AQUEDUCT NEAR SAN JACINTO, CA--Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	TEMPER- ATURE (DEG C)	SUS- PENDE SEDIM- ENT (MG/L)	SUS- PENDE SEDIM- ENT DIS- CHARGE (T/DAY)	SUS. SED. SIEVE DIAM. % FINER THAN .062 MM
OCT						
22...	1115	930	22.5	2	5.0	50
NOV						
24...	0930	675	17.0	2	3.6	55
DEC						
09...	0900	924	13.0	2	5.0	57
JAN						
12...	1000	452	10.0	3	3.7	41
FEB						
11...	1000	1690	12.0	3	14	--
MAR						
29...	1000	1860	15.5	14	70	34
APR						
26...	1030	1870	20.5	13	66	46
MAY						
24...	1015	1870	20.5	18	91	49
JUN						
22...	0945	1900	25.5	48	246	58
JUL						
27...	1000	1930	27.5	19	99	41
AUG						
25...	1045	1740	27.5	20	94	33
SEP						
23...	0945	1930	25.5	87	453	32

## COLORADO RIVER MAIN STEM

09427500 LAKE HAVASU NEAR PARKER DAM, AZ-CA

LOCATION.--Lat 34°18'58", long 114°09'23", in NW¼SW¼ sec.28, T.3 N., R.27 E., San Bernardino meridian, in California, San Bernardino County, Hydrologic Unit 15030101, at intake pumping plant for Colorado River aqueduct of Metropolitan Water District of Southern California, 1.8 mi (2.9 km) upstream from Parker Dam on Colorado River, and 149 mi (240 km), downstream from Hoover Dam.

DRAINAGE AREA.--182,700 mi<sup>2</sup> (473,200 km<sup>2</sup>), approximately, including 3,959 mi<sup>2</sup> (10,254 km<sup>2</sup>) in Great Divide basin in southern Wyoming, which is noncontributing (previously considered part of the Missouri River basin).

PERIOD OF RECORD.--July 1938 to current year. Published as "Parker Reservoir near Parker Dam" 1938.

REVISED RECORDS.--WRD Ariz. 1975: 1974 (elevation).

GAGE.--Water-stage recorder. Datum of gage is 400.54 ft (122.085 m) above mean sea level. Gage readings have been reduced to elevations above mean sea level.

REMARKS.--Lake is formed by concrete-arch dam; dam was completed and storage began July 1, 1938. Usable capacity--based on April 1957 re-survey by Bureau of Reclamation between elevations 430.54 ft (131.229 m) and 450.54 ft (137.325 m)--619,400 acre-ft (764 hm<sup>3</sup>) between elevations 400.54 ft (122.085 m), sill of regulating gates, and 450.54 ft (137.325 m), top of regulating gates. Prior to Oct. 1, 1956, different capacity table used. Dead storage, 28,600 acre-ft (35.3 hm<sup>3</sup>) below elevation 400.54 ft (122.085 m), based on original survey. About 0.07 ft (0.021 m) fall indicated between gage and Parker Dam under normal operating conditions. Drawdown below elevation 440.54 ft (134.277 m) not legally permissible except by consent of the Metropolitan Water District of Southern California or in an emergency affecting the safety of the dam. Lake is used for flood control, power development, re-regulation of river for irrigation demand, and as a basin from which water is pumped by Metropolitan Water District of Southern California to Colorado River aqueduct. Figures given herein represent usable contents. For record of diversion to Colorado River aqueduct, see record for Colorado River aqueduct near Parker Dam elsewhere in this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 693,000 acre-ft (854 hm<sup>3</sup>), by temporary use of flashboards, Apr. 18, 1943, June 4, 1953; maximum elevation, 450.77 ft (137.395 m) June 26, 1958; minimum contents, 71,400 acre-ft (88.0 hm<sup>3</sup>) June 25, 1942 (elevation, 412.09 ft or 125.605 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 623,000 acre-ft (768 hm<sup>3</sup>) June 17, elevation, 450.74 ft (137.386 m); minimum, 540,400 acre-ft (666 hm<sup>3</sup>) Feb. 8, elevation, 446.41 ft (136.066 m).

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	585000	572000	541000	578000	544000	558000	571000	599000	613000	599000	584000	574000
2	580000	570000	545000	578000	545000	559000	575000	595000	615000	597000	586000	582000
3	573000	570000	545000	581000	547000	561000	578000	595000	613000	596000	590000	582000
4	562000	570000	550000	581000	548000	562000	572000	599000	613000	593000	591000	574000
5	559000	567000	553000	581000	549000	558000	572000	604000	612000	596000	588000	569000
6	560000	562000	547000	582000	548000	555000	572000	608000	612000	605000	586000	577000
7	558000	559000	548000	583000	545000	551000	578000	612000	613000	612000	583000	582000
8	557000	554000	550000	584000	541000	549000	579000	613000	614000	609000	579000	582000
9	556000	555000	552000	585000	545000	547000	582000	612000	616000	611000	580000	580000
10	555000	557000	552000	585000	549000	547000	581000	614000	616000	610000	582000	574000
11	555000	558000	552000	583000	547000	547000	576000	618000	617000	604000	580000	574000
12	559000	561000	550000	582000	547000	548000	578000	620000	617000	606000	577000	578000
13	561000	566000	548000	579000	547000	552000	582000	622000	615000	607000	580000	578000
14	562000	570000	550000	575000	543000	546000	587000	619000	616000	608000	582000	578000
15	564000	572000	555000	568000	545000	547000	589000	617000	617000	604000	585000	578000
16	563000	571000	561000	561000	547000	550000	588000	617000	620000	603000	605000	573000
17	562000	573000	558000	556000	550000	555000	587000	615000	616000	601000	614000	566000
18	562000	574000	556000	552000	550000	558000	583000	611000	613000	594000	614000	562000
19	562000	574000	554000	551000	550000	562000	582000	607000	611000	596000	613000	559000
20	563000	573000	552000	549000	551000	564000	584000	606000	604000	600000	608000	562000
21	564000	572000	553000	549000	546000	560000	590000	609000	605000	600000	604000	568000
22	571000	570000	556000	552000	546000	561000	590000	609000	609000	595000	595000	574000
23	574000	569000	560000	552000	545000	561000	591000	607000	611000	595000	598000	575000
24	574000	567000	560000	549000	546000	565000	591000	614000	608000	594000	599000	577000
25	574000	565000	560000	550000	547000	567000	587000	617000	607000	599000	597000	569000
26	572000	566000	559000	550000	551000	572000	587000	617000	607000	591000	587000	561000
27	572000	560000	556000	552000	555000	573000	591000	612000	600000	596000	580000	560000
28	574000	553000	557000	548000	554000	572000	599000	612000	601000	600000	571000	565000
29	575000	548000	561000	548000	---	572000	590000	615000	605000	597000	563000	567000
30	575000	545000	565000	549000	---	571000	599000	612000	605000	592000	565000	569000
31	575000	---	571000	547000	---	572000	---	613000	---	589000	570000	---
MAY	585000	574000	571000	585000	555000	573000	599000	622000	620000	612000	614000	582000
MIN	555000	545000	541000	547000	541000	546000	571000	595000	600000	589000	563000	559000
(†)	-9300	-30600	+26000	-23800	+6800	+18100	+27000	+14200	-8000	-16100	-18400	-1500

CAL YR 1976 MAY 621000 MIN 529000 † +24,900  
WTR YR 1977 MAX 622000 MIN 541000 † -15,600

† Change in contents, in acre-feet.



09427500 LAKE HAVASU NEAR PARKER DAM, AZ-CA--Continued

ELEVATION, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	448.82	448.11	446.47	448.41	446.61	447.36	448.08	449.53	450.24	449.52	448.76	448.21
2	448.52	448.02	446.64	448.43	446.64	447.45	448.25	449.34	450.34	449.43	448.85	448.64
3	448.18	448.00	446.68	448.59	446.76	447.54	448.42	449.31	450.24	449.37	449.04	448.64
4	447.59	447.99	446.97	448.59	446.84	447.60	448.11	449.52	450.23	449.21	449.13	448.24
5	447.44	447.84	447.10	448.61	446.89	447.37	448.11	449.76	450.19	449.39	448.96	447.98
6	447.47	447.61	446.79	448.66	446.82	447.24	448.12	449.97	450.16	449.81	448.83	448.37
7	447.38	447.44	446.84	448.72	446.45	447.02	448.41	450.16	450.22	450.15	448.72	448.66
8	447.30	447.18	446.94	448.76	446.47	446.86	448.50	450.22	450.28	450.03	448.46	448.66
9	447.25	447.22	447.06	448.78	446.69	446.76	448.64	450.18	450.36	450.12	448.53	448.52
10	447.20	447.34	447.08	448.80	446.86	446.77	448.61	450.29	450.36	450.09	448.64	448.20
11	447.24	447.36	447.04	448.72	446.79	446.77	448.34	450.45	450.44	449.79	448.55	448.24
12	447.45	447.53	446.97	448.62	446.77	446.85	448.45	450.59	450.44	449.87	448.38	448.44
13	447.54	447.78	446.84	448.51	446.79	447.03	448.62	450.65	450.30	449.93	448.56	448.44
14	447.58	448.01	446.94	448.30	446.54	446.74	448.89	450.54	450.35	449.96	448.62	448.44
15	447.68	448.14	447.24	447.93	446.66	446.80	448.99	450.42	450.43	449.75	448.79	448.43
16	447.64	448.06	447.52	447.54	446.76	446.95	448.98	450.43	450.57	449.71	449.81	448.15
17	447.61	448.15	447.36	447.26	446.97	447.20	448.93	450.31	450.35	449.61	450.25	447.82
18	447.58	448.22	447.27	447.08	446.96	447.36	448.68	450.14	450.20	449.27	450.28	447.56
19	447.56	448.22	447.18	446.98	446.93	447.58	448.65	449.94	450.10	449.38	450.22	447.43
20	447.63	448.19	447.04	446.91	446.99	447.72	448.75	449.86	449.78	449.59	449.95	447.59
21	447.72	448.11	447.13	446.88	446.70	447.47	449.04	450.00	449.83	449.56	449.75	447.91
22	448.04	448.02	447.26	447.07	446.73	447.54	449.07	450.04	450.04	449.33	449.32	448.22
23	448.22	447.96	447.48	447.03	446.68	447.55	449.10	449.94	450.13	449.32	449.49	448.25
24	448.22	447.86	447.49	446.88	446.73	447.77	449.11	450.26	449.97	449.26	449.51	448.40
25	448.20	447.77	447.46	446.94	446.79	447.85	448.89	450.41	449.94	449.00	449.43	447.96
26	448.10	447.81	447.44	446.92	447.00	448.14	448.88	450.44	449.90	449.11	448.91	447.54
27	448.12	447.46	447.27	447.06	447.20	448.16	449.12	450.19	449.57	449.37	448.52	447.50
28	448.22	447.12	447.32	446.84	447.14	448.12	449.53	450.15	449.63	449.57	448.04	447.76
29	448.30	446.81	447.51	446.84	---	448.13	449.52	450.30	449.84	449.41	447.63	447.86
30	448.30	446.64	447.74	446.89	---	448.05	449.50	450.19	449.81	449.18	447.77	447.95
31	448.28	---	448.04	446.76	---	448.10	---	450.21	---	449.00	448.03	---
MEAN	447.82	447.73	447.16	447.75	446.79	447.41	448.74	450.12	450.14	449.55	448.96	448.13
MAX	448.82	448.22	448.04	448.80	447.20	448.16	449.53	450.65	450.57	450.15	450.28	448.66
MIN	447.20	446.64	446.47	446.76	446.45	446.74	448.08	449.31	449.57	449.00	447.63	447.43

CAL YR 1976	MEAN 447.99	MAX 450.61	MIN 445.80
WTR YR 1977	MEAN 448.37	MAX 450.65	MIN 446.45



09427520 COLORADO RIVER BELOW PARKER DAM, AZ-CA--Continued

## WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: February 1954 to August 1970.

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	FECAL COLI- FORM .7UM-MF (COL./ 100 ML)	HARD- NESS (CA, MG) (MG/L)	NUN- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG)
OCT												
04...	0730	--	1060	--	--	--	--	--	--	--	--	--
07...	1045	9020	1060	7.8	23.5	1	6.6	81	320	200	79	29
11...	0730	--	1070	--	--	--	--	--	--	--	--	--
18...	0730	--	1060	--	--	--	--	--	--	--	--	--
26...	0730	--	1080	--	--	--	--	--	--	--	--	--
NOV												
01...	0730	--	1060	--	--	--	--	--	--	--	--	--
08...	0730	--	1080	--	--	--	--	--	--	--	--	--
11...	1055	4390	1070	7.7	18.5	2	7.3	81	330	210	78	32
15...	0730	--	1080	--	--	--	--	--	--	--	--	--
22...	0730	--	1080	--	--	--	--	--	--	--	--	--
29...	0730	--	1090	--	--	--	--	--	--	--	--	--
DEC												
06...	0730	--	1090	--	--	--	--	--	--	--	--	--
09...	1055	8370	1100	8.0	13.5	5	9.1	81	330	210	81	30
13...	0730	--	1100	--	--	--	--	--	--	--	--	--
20...	0900	--	1100	--	--	--	--	--	--	--	--	--
27...	1230	--	1100	--	--	--	--	--	--	--	--	--
JAN												
03...	0730	--	1100	--	--	--	--	--	--	--	--	--
10...	0730	--	1100	--	--	--	--	--	--	--	--	--
13...	1110	3710	1100	8.1	9.5	7	10.1	81	320	200	80	30
17...	0730	--	1100	--	--	--	--	--	--	--	--	--
24...	0730	--	1100	--	--	--	--	--	--	--	--	--
31...	0730	--	1100	--	--	--	--	--	--	--	--	--
FEB												
07...	0730	--	1110	--	--	--	--	--	--	--	--	--
10...	1115	8100	1110	8.1	11.0	3	10.3	81	350	220	90	30
14...	0730	--	1110	--	--	--	--	--	--	--	--	--
22...	0730	--	1110	--	14.0	--	--	--	--	--	--	--
28...	0730	--	1100	--	14.5	--	--	--	--	--	--	--
MAR												
07...	0730	--	1100	--	--	--	--	--	--	--	--	--
10...	1130	19000	1100	8.1	12.5	6	9.8	83	330	200	84	29
14...	0730	--	1100	--	--	--	--	--	--	--	--	--
21...	0730	--	1100	--	--	--	--	--	--	--	--	--
28...	0730	--	1100	--	14.5	--	--	--	--	--	--	--
APR												
04...	0730	--	1110	--	14.5	--	--	--	--	--	--	--
11...	0830	--	1100	--	15.0	--	--	--	--	--	--	--
14...	1100	18300	1090	8.2	17.0	3	--	81	330	190	81	30
18...	1305	--	1090	--	--	--	--	--	--	--	--	--
25...	0730	--	1090	--	--	--	--	--	--	--	--	--
MAY												
02...	0730	--	1080	--	20.0	--	--	--	--	--	--	--
05...	1050	14160	1100	8.1	19.0	1	8.4	81	350	210	84	33
09...	0920	--	1090	--	19.0	--	--	--	--	--	--	--
16...	0730	--	1080	--	20.0	--	--	--	--	--	--	--
23...	0730	--	1080	--	20.0	--	--	--	--	--	--	--
31...	0730	--	1080	--	21.0	--	--	--	--	--	--	--
JUN												
06...	0730	--	1080	--	21.5	--	--	--	--	--	--	--
09...	1045	13900	1070	8.0	23.0	3	7.9	81	330	200	85	29
13...	0730	--	1070	--	22.0	--	--	--	--	--	--	--
20...	0730	--	1070	--	22.0	--	--	--	--	--	--	--
27...	0730	--	1070	--	23.5	--	--	--	--	--	--	--
JUL												
05...	0730	--	1070	--	23.5	--	--	--	--	--	--	--
11...	0730	--	1070	--	25.0	--	--	--	--	--	--	--
11...	1215	18300	1080	8.3	24.5	2	6.9	82	320	180	79	29
18...	0730	--	1080	--	23.5	--	--	--	--	--	--	--
25...	0730	--	1070	--	24.5	--	--	--	--	--	--	--
AUG												
01...	0730	--	1070	--	24.5	--	--	--	--	--	--	--
08...	0730	--	1070	--	24.5	--	--	--	--	--	--	--
11...	1150	15800	1070	7.8	25.0	3	6.2	82	310	180	78	28
15...	0730	--	1070	--	24.5	--	--	--	--	--	--	--
22...	0730	--	1070	--	23.5	--	--	--	--	--	--	--
29...	0730	--	1070	--	24.5	--	--	--	--	--	--	--
SEP												
06...	0730	--	1070	--	25.0	--	--	--	--	--	--	--
12...	0800	--	1080	--	23.5	--	--	--	--	--	--	--
12...	1140	9500	1070	7.7	24.0	1	5.1	82	330	190	81	30
19...	0715	--	1070	--	23.0	--	--	--	--	--	--	--
26...	0800	--	1080	--	23.0	--	--	--	--	--	--	--

B Based on non-ideal colony count.

## COLORADO RIVER MAIN STEM

09427520 COLORADO RIVER BELOW PARKER DAM, AZ-CA--Continued

INSTRUMENTATION.--Water temperature recorder from February 1954 to August 1970.

REMARKS.--Prior to October 1968, published as 09428000.

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DTS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DTS- SOLVED CHLO- RINE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SiO2) (MG/L)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	DTS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L)	DIS- SOLVED SOLIDS (TONS PER AC-FT)
OCT												
04...	--	--	--	--	--	--	--	--	--	674	--	.92
07...	100	2.4	5.3	138	0	300	88	.5	8.4	686	679	.93
11...	--	--	--	--	--	--	--	--	--	678	--	.92
18...	--	--	--	--	--	--	--	--	--	666	--	.91
26...	--	--	--	--	--	--	--	--	--	686	--	.93
NOV												
01...	--	--	--	--	--	--	--	--	--	674	--	.92
08...	--	--	--	--	--	--	--	--	--	680	--	.92
11...	100	2.4	5.2	142	0	290	86	.4	8.3	718	671	.98
15...	--	--	--	--	--	--	--	--	--	678	--	.92
22...	--	--	--	--	--	--	--	--	--	678	--	.92
29...	--	--	--	--	--	--	--	--	--	684	--	.93
DEC												
06...	--	--	--	--	--	--	--	--	--	686	--	.93
09...	110	2.7	5.1	147	0	310	92	.4	7.6	728	709	.99
13...	--	--	--	--	--	--	--	--	--	690	--	.94
20...	--	--	--	--	--	--	--	--	--	698	--	.95
27...	--	--	--	--	--	--	--	--	--	698	--	.95
JAN												
03...	--	--	--	--	--	--	--	--	--	694	--	.94
10...	--	--	--	--	--	--	--	--	--	704	--	.96
13...	100	2.4	4.7	150	0	300	95	.3	8.7	722	692	.98
17...	--	--	--	--	--	--	--	--	--	702	--	.95
24...	--	--	--	--	--	--	--	--	--	700	--	.95
31...	--	--	--	--	--	--	--	--	--	702	--	.95
FEB												
07...	--	--	--	--	--	--	--	--	--	706	--	.96
10...	100	2.3	4.7	159	0	290	92	.4	7.9	714	694	.97
14...	--	--	--	--	--	--	--	--	--	706	--	.96
22...	--	--	--	--	--	--	--	--	--	708	--	.96
28...	--	--	--	--	--	--	--	--	--	704	--	.96
MAR												
07...	--	--	--	--	--	--	--	--	--	700	--	.95
10...	110	2.6	5.1	159	0	280	91	.3	7.9	721	687	.98
14...	--	--	--	--	--	--	--	--	--	696	--	.95
21...	--	--	--	--	--	--	--	--	--	702	--	.95
28...	--	--	--	--	--	--	--	--	--	696	--	.95
APR												
04...	--	--	--	--	--	--	--	--	--	704	--	.96
11...	--	--	--	--	--	--	--	--	--	698	--	.95
14...	100	2.4	4.8	160	0	300	87	.3	7.3	710	690	.97
18...	--	--	--	--	--	--	--	--	--	692	--	.94
25...	--	--	--	--	--	--	--	--	--	694	--	.94
MAY												
02...	--	--	--	--	--	--	--	--	--	680	--	.92
05...	100	2.3	4.9	160	0	300	84	.4	6.8	715	693	.97
09...	--	--	--	--	--	--	--	--	--	698	--	.95
16...	--	--	--	--	--	--	--	--	--	688	--	.94
23...	--	--	--	--	--	--	--	--	--	682	--	.93
31...	--	--	--	--	--	--	--	--	--	688	--	.94
JUN												
06...	--	--	--	--	--	--	--	--	--	686	--	.93
09...	100	2.4	4.7	160	0	280	86	.4	7.9	707	673	.96
13...	--	--	--	--	--	--	--	--	--	684	--	.93
20...	--	--	--	--	--	--	--	--	--	682	--	.93
27...	--	--	--	--	--	--	--	--	--	678	--	.92
JUL												
05...	--	--	--	--	--	--	--	--	--	678	--	.92
11...	--	--	--	--	--	--	--	--	--	686	--	.93
11...	110	2.7	4.6	170	0	290	87	.3	8.1	698	692	.95
18...	--	--	--	--	--	--	--	--	--	684	--	.93
25...	--	--	--	--	--	--	--	--	--	674	--	.92
AUG												
01...	--	--	--	--	--	--	--	--	--	676	--	.92
08...	--	--	--	--	--	--	--	--	--	676	--	.92
11...	100	2.5	4.7	160	0	240	88	.3	9.1	--	627	1.14
15...	--	--	--	--	--	--	--	--	--	678	--	.92
22...	--	--	--	--	--	--	--	--	--	678	--	.92
29...	--	--	--	--	--	--	--	--	--	674	--	.92
SEP												
06...	--	--	--	--	--	--	--	--	--	676	--	.92
12...	--	--	--	--	--	--	--	--	--	680	--	.93
12...	100	2.4	4.7	160	0	280	88	.4	9.3	688	673	.94
19...	--	--	--	--	--	--	--	--	--	682	--	.93
26...	--	--	--	--	--	--	--	--	--	688	--	.94

09427520 COLORADO RIVER BELOW PARKER DAM, AZ-CA--Continued

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TOTAL ARSENIC (AS) (UG/L)	TOTAL BARIUM (BA) (UG/L)	TOTAL BORON (B) (UG/L)	DIS- SOLVED BORON (B) (UG/L)	TOTAL CAD- MIUM (CD) (UG/L)	TOTAL COPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)
OCT								
07...	2	0	200	130	<10	<10	90	10
NOV								
11...	3	100	210	130	<10	10	130	30
DEC								
09...	3	0	190	130	<10	10	160	0
JAN								
13...	3	0	160	130	<10	<10	170	10
FEB								
10...	0	0	180	130	<10	<10	210	10
MAR								
10...	5	100	360	140	<10	<10	270	10
APR								
14...	2	0	160	130	<10	10	110	30
MAY								
05...	2	0	50	120	<10	<10	50	10
JUN								
09...	2	200	180	140	<10	20	230	0
JUL								
11...	1	200	210	130	<10	<10	550	10
AUG								
11...	2	300	180	130	<10	10	130	20
SEPT								
12...	2	200	190	150	10	<10	40	10

&lt; Actual value is known to be less than value shown.

## COLORADO RIVER MAIN STEM

09427520 COLORADO RIVER BELOW PARKER DAM, AZ-CA--Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	TOTAL KJEL- DAHL- NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	DIS- SOLVED ORTHOPHOS- PHORUS (P) (MG/L)
OCT 07...	.08	.06	.32	.40	.01	.02
NOV 11...	.00	.11	.55	.55	.01	.00
DEC 09...	.12	.16	.00	.12	.02	.00
JAN 13...	.16	.21	.36	.52	.03	.04
FEB 10...	.14	.16	.39	.53	.01	.00
MAR 10...	.14	.14	.47	.61	.02	.02
APR 14...	.13	.08	.34	.47	.01	.01
MAY 05...	.10	.10	.15	.25	.00	.03
JUN 09...	.09	.13	.17	.26	.01	.01
JUL 11...	.08	.09	1.2	1.3	.02	.01
AUG 11...	.11	--	.54	.65	.02	--
SEP 12...	.09	.14	.04	.13	.00	.00

DATE	TOTAL LEAD (PB) (UG/L)	TOTAL MANGANESE (MN) (UG/L)	DIS- SOLVED MANGANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	TOTAL SELENIUM (SE) (UG/L)	TOTAL SILVER (AG) (UG/L)	TOTAL ZINC (ZN) (UG/L)
OCT 07...	<100	40	20	.1	2	<10	10
NOV 11...	<100	20	0	.0	3	<10	10
DEC 09...	<100	20	0	.0	3	<10	10
JAN 13...	<100	10	10	.0	3	<10	0
FEB 10...	100	30	10	.0	4	<10	10
MAR 10...	<100	20	0	.0	3	<10	10
APR 14...	<100	10	0	.0	3	<10	20
MAY 05...	<100	10	10	.1	2	<10	10
JUN 09...	<100	20	0	.0	5	<10	20
JUL 11...	<100	30	4	.0	0	<10	30
AUG 11...	<100	30	8	.0	5	<10	10
SEP 12...	<100	40	0	.0	3	<10	20

&lt; Actual value is known to be less than value shown.

09427520 COLORADO RIVER BELOW PARKER DAM, AZ-CA--Continued

PESTICIDE ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	TOTAL ORGANIC CARBON (C) (MG/L)	CYANIDE (CN) (MG/L)	PHENOLS (UG/L)
OCT				
07...	1045	14	.00	2
NOV				
11...	1055	3.2	.00	2
DEC				
09...	1055	60	.00	0
JAN				
13...	1110	2.6	.00	1
FEB				
10...	1115	3.0	.00	0
MAR				
10...	1130	3.4	.00	0
APR				
14...	1100	4.2	.00	4
MAY				
05...	1050	3.4	.00	1
JUN				
09...	1045	3.0	.00	1
JUL				
11...	1215	5.0	.00	0
AUG				
11...	1150	2.9	.00	2
SEP				
12...	1130	2.9	.00	0

LOCATION.--Lat 33°43'55", long 114°30'40", in NW¼ sec.19, T.5 S., R.24 E., San Bernardino meridian, Riverside County, Hydrologic Unit 15030104, at canal intake structure on west side of Palo Verde diversion dam, 10 mi (16 km) northeast of Blythe and 44 mi (71 km) downstream from Headgate Rock Dam.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1922 to December 1923, January 1925 to current year (prior to October 1950, monthly discharge only).

REVISED RECORD.--WSP 1213: 1946-48.

GAGE.--Recording gages above and below intakes to record head. Since May 18, 1964, recorder to show gate openings. Datum of gage is: Forebay gage, at mean sea level; tailrace gage, 274.13 ft (83.555 m) above mean sea level. Aug. 7, 1950, to Nov. 30, 1952, water-stage recorder on tailrace and auxiliary recorder 0.5 mi (0.8 km) downstream and Dec. 1, 1952, to Oct. 28, 1957, recording gage above and below former intake structure 0.2 mi (0.3 km) upstream, at different datums.

REMARKS.--Records good. Daily diversions computed on basis of head on intake gates and gate openings. Records published herein represent flow diverted from Colorado River for irrigation of 92,215 acres (373 km<sup>2</sup>) during the 1976 calendar year. Return flows to Colorado River are measured by 11 wasteways and drains extending throughout the project; 5 of these are equipped with water stage recorder and Parshall flume, 3 are equipped with Sparling flowmeters. Return flows have not been subtracted; combined monthly return flows are given in table below.

AVERAGE DISCHARGE.--27 years (1950-77), 1,208 ft<sup>3</sup>/s (34.21 m<sup>3</sup>/s), 875,200 acre-ft/yr (1,080 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 2,230 ft<sup>3</sup>/s (63.2 m<sup>3</sup>/s) July 20, 1977; no flow at times.

CORRECTIONS.--WRD Ariz. 1976, Return flow water year total--499,700 acre-feet.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
 MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	372	969	955	396	554	1260	1410	1760	1560	2080	2150	1920
2	509	960	1000	367	962	1260	1370	1800	1640	2180	2150	1860
3	556	992	831	382	993	1390	1240	1710	1790	2150	2100	1850
4	593	966	829	365	1080	1460	1120	1750	1790	2020	2190	1680
5	644	982	783	364	952	1270	1450	1800	1790	1980	2090	1670
6	966	928	754	415	911	1120	1430	1840	1840	2020	2100	1530
7	1090	877	654	401	1030	1070	1480	2040	1900	1980	2070	1580
8	1050	1000	748	354	989	1110	1490	1570	1850	2010	2140	1550
9	907	997	754	323	1010	1060	1470	1510	1860	2040	2040	1570
10	879	1070	691	382	985	1160	1510	1560	1870	2060	2070	1310
11	872	1120	634	430	964	1170	1600	1720	1730	2150	2080	1030
12	952	987	579	462	944	1050	1520	1670	1740	2210	2050	820
13	923	800	699	488	1000	1120	1570	1640	1800	2090	2110	741
14	921	777	688	547	1230	1210	1630	1570	1800	2070	2060	804
15	843	795	722	679	1230	1240	1710	1340	1820	2060	2000	854
16	879	774	813	710	1250	1420	1680	1400	1940	2060	1590	920
17	781	789	806	742	1210	1490	1640	1390	1970	1980	1110	908
18	867	818	727	841	1150	1490	1650	1550	1960	2120	1000	914
19	816	863	541	910	969	1290	1730	1530	1790	2170	872	1000
20	872	753	687	1010	1040	1180	1710	1500	1840	2230	815	1130
21	895	660	609	1050	1190	1140	1740	1530	1860	2110	850	1240
22	785	687	712	995	1190	1250	1650	1400	1910	2170	1040	1160
23	725	718	614	919	1260	1360	1640	1550	2040	1950	976	1010
24	696	751	404	942	1320	1480	1580	1330	2080	1890	840	932
25	716	636	350	909	1200	1390	1720	1340	1950	1980	765	882
26	705	752	364	913	1120	1250	1840	1230	1940	2010	871	928
27	818	744	477	966	1020	1140	1920	1310	1880	2060	1080	886
28	887	753	516	987	1200	1130	1930	1490	1940	2050	1390	890
29	1140	932	767	950	---	1270	2010	1470	1990	2050	1420	1000
30	1130	868	692	737	---	1380	1970	1480	2010	2060	1550	967
31	920	---	543	420	---	1370	---	1680	---	2120	1700	---
TOTAL	25709	25718	20943	20356	29953	38980	48410	48460	55880	64110	49269	35536
MEAN	829	857	676	657	1070	1257	1614	1563	1863	2068	1589	1185
MAX	1140	1120	1000	1050	1320	1490	2010	2040	2080	2230	2190	1920
MIN	372	636	350	323	554	1050	1120	1230	1560	1890	765	741
AC-FT	50990	51010	41540	40380	59410	77320	96020	96120	110800	127200	97770	70490
(†)	43630	40080	39820	35980	30730	37350	40190	46100	43840	45370	51170	45010

CAL YR 1976 TOTAL 450947.00 MEAN 1232 MAX 2070 MIN .00 AC-FT 894500 † 502100  
 WTR YR 1977 TOTAL 463324.00 MEAN 1269 MAX 2230 MIN 323 AC-FT 919000 † 499300

† Return flows, in acre-feet, to Colorado River.



09429000 PALO VERDE CANAL NEAR BLYTHE, CA--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--March 1970 to current year.

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	INSTANTANEOUS DIS-CHARGE (CFS)	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	HARDNESS (CA, MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG/L)	DISSOLVED SODIUM (NA) (MG/L)	SODIUM ADSORPTION RATIO
OCT											
04...	1040	593	1110	7.8	23.5	330	210	86	29	110	2.6
12...	1150	--	1080	--	21.5	--	--	--	--	--	--
18...	0845	--	1110	--	20.5	--	--	--	--	--	--
26...	1045	--	1120	--	20.0	--	--	--	--	--	--
NOV											
01...	0840	1030	1130	8.2	18.5	330	200	82	30	110	2.6
08...	0930	--	1090	--	19.0	--	--	--	--	--	--
15...	1420	--	1150	--	14.0	--	--	--	--	--	--
16...	0830	--	--	7.4	15.5	--	--	--	--	--	--
22...	0835	--	1180	--	17.0	--	--	--	--	--	--
29...	0805	--	1160	--	9.0	--	--	--	--	--	--
DEC											
06...	1120	759	1110	8.2	15.0	330	200	81	31	110	2.6
13...	1450	--	1130	--	14.5	--	--	--	--	--	--
20...	1145	--	1210	--	12.0	--	--	--	--	--	--
27...	1150	--	1130	--	12.0	--	--	--	--	--	--
JAN											
03...	1145	422	1170	8.2	13.0	350	220	89	31	120	2.8
10...	0900	--	1200	--	11.5	--	--	--	--	--	--
17...	1100	--	1140	--	10.5	--	--	--	--	--	--
24...	1200	--	1120	--	12.0	--	--	--	--	--	--
25...	0800	973	--	8.3	11.0	--	--	--	--	--	--
31...	1000	--	1120	--	13.5	--	--	--	--	--	--
FEB											
07...	1010	1050	1120	8.3	11.5	340	210	84	31	110	2.6
14...	1000	--	1110	--	12.0	--	--	--	--	--	--
22...	0845	--	1120	--	14.5	--	--	--	--	--	--
28...	1210	--	1120	--	--	--	--	--	--	--	--
MAR											
07...	1340	1110	1140	8.1	12.0	340	220	87	30	110	2.6
08...	0745	--	--	8.2	13.0	--	--	--	--	--	--
14...	0915	--	1120	--	12.0	--	--	--	--	--	--
21...	1020	--	1130	--	13.5	--	--	--	--	--	--
28...	1030	--	1120	--	14.5	--	--	--	--	--	--
APR											
04...	0910	2160	1110	8.1	14.5	340	210	85	31	100	2.4
11...	0820	--	1110	--	15.5	--	--	--	--	--	--
18...	1150	--	1100	--	17.0	--	--	--	--	--	--
25...	0720	--	1100	--	17.0	--	--	--	--	--	--
26...	0645	--	990	8.4	20.0	--	--	--	--	--	--
26...	0646	--	990	8.4	20.0	--	--	--	--	--	--
MAY											
02...	1110	1820	1090	8.0	20.5	330	200	85	29	110	2.6
09...	0715	--	1110	--	19.0	--	--	--	--	--	--
16...	0800	--	1110	--	18.0	--	--	--	--	--	--
23...	0815	--	1100	--	20.0	--	--	--	--	--	--
31...	1100	--	1090	--	20.5	--	--	--	--	--	--
JUN											
06...	1150	1890	1090	7.9	20.5	340	200	85	30	110	2.6
13...	1420	--	1090	--	23.5	--	--	--	--	--	--
20...	0800	--	1100	--	23.5	--	--	--	--	--	--
27...	0745	--	1100	--	23.0	--	--	--	--	--	--
JUL											
05...	1210	2040	1080	8.1	23.5	330	200	80	32	110	2.6
11...	0750	--	1080	--	--	--	--	--	--	--	--
18...	1525	--	1130	--	26.5	--	--	--	--	--	--
19...	0700	--	1080	7.5	24.5	--	--	--	--	--	--
25...	0820	--	1180	--	25.5	--	--	--	--	--	--
AUG											
01...	0735	2090	1080	7.7	25.0	320	180	77	30	100	2.4
08...	0800	--	1090	--	25.5	--	--	--	--	--	--
15...	0720	--	1100	--	--	--	--	--	--	--	--
22...	0715	--	1160	--	27.0	--	--	--	--	--	--
29...	0800	--	1080	--	25.5	--	--	--	--	--	--
SEP											
06...	0720	2100	1080	7.7	26.5	320	200	78	31	110	2.7
12...	0730	--	1120	--	25.5	--	--	--	--	--	--
19...	1615	--	1090	--	23.5	--	--	--	--	--	--
26...	1215	--	1120	--	24.0	--	--	--	--	--	--

## DIVERSIONS AND RETURN FLOWS BETWEEN PARKER DAM AND PALO VERDE DAM

09429000 PALO VERDE CANAL NEAR BLYTHE, CA--Continued

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	DTS- SOLVED PHOS- PHORUS (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DTS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DTS- SOLVED SILICA (SiO2) (MG/L)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L)	DIS- SOLVED SOLIDS (TONS PER AC-FT)	DTS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)
OCT											
04...	5.4	148	0	320	88	.3	9.2	698	723	.95	.35
12...	--	--	--	--	--	--	--	678	--	.92	--
18...	--	--	--	--	--	--	--	706	--	.96	--
26...	--	--	--	--	--	--	--	712	--	.97	--
NOV											
01...	5.3	160	0	320	91	.3	8.2	708	727	.96	.23
08...	--	--	--	--	--	--	--	688	--	.94	--
15...	--	--	--	--	--	--	--	728	--	.99	--
16...	5.3	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	750	--	1.02	--
29...	--	--	--	--	--	--	--	736	--	1.00	--
DEC											
06...	5.0	160	0	290	95	.4	8.8	702	701	.95	.27
13...	--	--	--	--	--	--	--	712	--	.97	--
20...	--	--	--	--	--	--	--	768	--	1.04	--
27...	--	--	--	--	--	--	--	718	--	.98	--
JAN											
03...	4.7	156	0	340	110	.4	8.4	746	782	1.01	.28
10...	--	--	--	--	--	--	--	762	--	1.04	--
17...	--	--	--	--	--	--	--	718	--	.98	--
24...	--	--	--	--	--	--	--	710	--	.97	--
25...	4.9	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	710	--	.97	--
FEB											
07...	5.1	157	0	310	99	.4	6.6	708	724	.96	.14
14...	--	--	--	--	--	--	--	708	--	.96	--
22...	--	--	--	--	--	--	--	710	--	.97	--
28...	--	--	--	--	--	--	--	712	--	.97	--
MAR											
07...	4.8	152	0	300	100	.4	8.7	720	717	.98	.22
08...	4.7	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	712	--	.97	--
21...	--	--	--	--	--	--	--	716	--	.97	--
28...	--	--	--	--	--	--	--	714	--	.97	--
APR											
04...	5.0	160	0	310	90	.4	8.7	708	710	.96	.29
11...	--	--	--	--	--	--	--	706	--	.96	--
18...	--	--	--	--	--	--	--	700	--	.95	--
25...	--	--	--	--	--	--	--	700	--	.95	--
26...	5.0	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--
MAY											
02...	4.8	160	0	300	89	.4	5.9	690	704	.94	.16
09...	--	--	--	--	--	--	--	706	--	.96	--
16...	--	--	--	--	--	--	--	704	--	.96	--
23...	--	--	--	--	--	--	--	694	--	.94	--
31...	--	--	--	--	--	--	--	694	--	.94	--
JUN											
06...	5.1	160	0	300	87	.4	7.7	690	706	.94	.35
13...	--	--	--	--	--	--	--	690	--	.94	--
20...	--	--	--	--	--	--	--	700	--	.95	--
27...	--	--	--	--	--	--	--	696	--	.95	--
JUL											
05...	5.0	160	0	290	91	.4	8.4	686	696	.93	.10
11...	--	--	--	--	--	--	--	692	--	.94	--
18...	--	--	--	--	--	--	--	730	--	.99	--
19...	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	746	--	1.01	--
AUG											
01...	5.2	160	0	290	88	.4	8.7	690	678	.94	--
08...	--	--	--	--	--	--	--	688	--	.94	--
15...	--	--	--	--	--	--	--	698	--	.95	--
22...	--	--	--	--	--	--	--	742	--	1.01	--
29...	--	--	--	--	--	--	--	680	--	.92	--
SEP											
06...	4.9	150	0	300	98	.4	9.2	684	706	.93	--
12...	--	--	--	--	--	--	--	712	--	.97	--
19...	--	--	--	--	--	--	--	694	--	.94	--
26...	--	--	--	--	--	--	--	714	--	.97	--

09429000 PALO VERDE CANAL NEAR BLYTHE, CA--Continued

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	DTS- SOLVED BORON (B) (UG/L)	TOTAL COPPER (CU) (UG/L)	DTS- SOLVED COPPER (CU) (UG/L)	DTS- SOLVED IRON (FE) (UG/L)	TOTAL MERCURY (HG) (UG/L)	TOTAL ZINC (ZN) (UG/L)	DTS- SOLVED ZINC (ZN) (UG/L)
UCT							
04...	140	--	--	10	--	--	--
NOV							
01...	140	--	--	0	--	--	--
16...	--	--	11	--	--	--	60
DEC							
06...	130	--	--	10	--	--	--
JAN							
03...	140	--	--	10	--	--	--
25...	--	--	11	--	--	--	60
FEB							
07...	140	--	--	0	--	--	--
MAR							
07...	140	--	--	10	--	--	--
08...	--	--	8	--	--	--	20
APR							
04...	130	--	--	10	--	--	--
26...	--	--	1	--	--	--	10
MAY							
02...	130	--	--	0	--	--	--
JUN							
06...	130	--	--	10	--	--	--
JUL							
05...	130	--	--	0	--	--	--
19...	--	10	--	--	.1	80	--
AUG							
01...	140	--	--	10	--	--	--
SEP							
06...	140	--	--	30	--	--	--

## PESTICIDE ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	PHENDLS (UG/L)	TOTAL PCB (UG/L)	PCB IN BOTTOM MA- TERIAL (UG/KG)	TOTAL ALDRIN (UG/L)	ALDRIN IN BOTTOM MA- TERIAL (UG/KG)	TOTAL ATRA- ZINE (UG/L)	TOTAL CHLOR- DANE (UG/L)	CHLOR- DANE IN BOTTOM MA- TERIAL (UG/KG)
NOV									
16...	0830	1	.0	--	.00	--	--	.0	--
JAN									
25...	0800	1	.0	--	.00	--	--	.0	--
MAR									
08...	0745	2	.0	--	.00	--	.00	.0	--
APR									
26...	0645	2	.0	--	.00	--	.00	.0	--
JUL									
19...	0700	--	.0	--	.00	--	--	.0	--
SEP									
13...	0700	--	.0	0	.00	.0	--	.0	0
13...	0702	--	--	--	--	--	.00	--	--

## DIVERSIONS AND RETURN FLOWS BETWEEN PARKER DAM AND PALO VERDE DAM

09429000 PALO VERDE CANAL, NEAR BLYTHE, CA--Continued

## PESTICIDE ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

		DDD IN BOTTOM MA- TERIAL (UG/KG)	TOTAL DDE (UG/L)	DDE IN BOTTOM MA- TERIAL (UG/KG)	TOTAL DDT (UG/L)	DDT IN BOTTOM MA- TERIAL (UG/KG)	TOTAL DI- AZINON (UG/L)	DI- AZINON IN BOTTOM MA- TERIAL (UG/KG)	TOTAL DI- ELDRIN (UG/L)
DATE		(UG/L)		(UG/KG)	(UG/L)	(UG/KG)	(UG/L)	(UG/KG)	(UG/L)
NOV 16...		.00	--	.00	--	.00	--	.00	.00
JAN 25...		.00	--	.00	--	.00	--	.00	.00
MAR 08...		.00	--	.00	--	.00	--	.00	.00
APR 26...		.00	--	.00	--	.00	--	.01	.00
JUL 19...		.00	--	.00	--	.00	--	.00	.00
SEP 13...		.00	.0	.00	.2	.00	.0	.00	.00
13...		--	--	--	--	--	--	--	--
		DT- ELDRIN IN BOTTOM MA- TERIAL (UG/KG)	TOTAL ENDRIN (UG/L)	ENDRIN IN BOTTOM MA- TERIAL (UG/KG)	TOTAL ETHION (UG/L)	ETHION IN BOTTOM MA- TERIAL (UG/KG)	TOTAL HEPTA- CHLOR (UG/L)	HEPTA- CHLOR IN BOTTOM MA- TERIAL (UG/KG)	TOTAL HEPTA- CHLOR EPOXIDE (UG/L)
DATE	TIME	(UG/KG)	(UG/L)	(UG/KG)	(UG/L)	(UG/KG)	(UG/L)	(UG/KG)	(UG/KG)
NOV 16...	0830	--	.00	--	.00	--	.00	--	.00
JAN 25...	0800	--	.00	--	.00	--	.00	--	.00
MAR 08...	0745	--	.00	--	.00	--	.00	--	.00
APR 26...	0645	--	.00	--	.00	--	.00	--	.00
JUL 19...	0700	--	.00	--	.00	--	.00	--	.00
SEP 13...	0700	.0	.00	.0	.00	.0	.00	.0	.0
		LINDANE IN BOTTOM MA- TERIAL (UG/KG)	TOTAL MALA- THION (UG/L)	MALA- THION IN BOTTOM MA- TERIAL (UG/KG)	TOTAL METHYL PARA- THION (UG/L)	METHYL PARA- THION IN ROT- TOM MA- TERIAL (UG/KG)	TOTAL METHYL TRI- THION (UG/L)	METHYL TRI- THION IN ROT- TOM MA- TERIAL (UG/KG)	TOTAL PARA- THION (UG/L)
DATE	TOTAL LINDANE (UG/L)	(UG/KG)	(UG/L)	(UG/KG)	(UG/L)	(UG/KG)	(UG/L)	(UG/KG)	(UG/L)
NOV 16...	.00	--	.00	--	.00	--	--	--	.00
JAN 25...	.00	--	.00	--	.00	--	.00	--	.00
MAR 08...	.00	--	.00	--	.00	--	.00	--	.00
APR 26...	.00	--	.00	--	.00	--	.00	--	.00
JUL 19...	.00	--	.00	--	.00	--	.00	--	.00
SEP 13...	.00	.0	.00	.0	.00	.0	.00	.0	.01
		TOX- APHENE IN BOTTOM MA- TERIAL (UG/KG)	TOTAL TRI- THION (UG/L)	TRI- THION IN BOTTOM MA- TERIAL (UG/KG)	TOTAL 2,4-D (UG/L)	2,4-D IN BOTTOM MA- TERIAL (UG/KG)	TOTAL 2,4,5-T (UG/L)	2,4,5-T IN BOTTOM MA- TERIAL (UG/KG)	TOTAL SILVEX (UG/L)
DATE	TOTAL TOX- APHENE (UG/L)	(UG/KG)	(UG/L)	(UG/KG)	(UG/L)	(UG/KG)	(UG/L)	(UG/KG)	(UG/KG)
NOV 16...	0	--	--	--	.00	--	.00	--	.00
JAN 25...	0	--	.00	--	.00	--	.04	--	6.8
MAR 08...	0	--	.00	--	.00	--	.00	--	.00
APR 26...	0	--	.00	--	.00	--	.00	--	.00
JUL 19...	0	--	.00	--	.00	--	.00	--	.00
SEP 13...	0	0	.00	.0	.00	0	.00	0	.00

## 09429010 COLORADO RIVER AT PALO VERDE DAM, AZ-CA

LOCATION.--Lat 33°43'55", long 114°30'40", in NW¼NE¼ sec.19, T.5 S., R.24 E., San Bernardino meridian, in California, Riverside County, Hydrologic Unit 15030104, on west side of Palo Verde Diversion Dam, 10 mi (16 km) northeast of Blythe, Calif., and 44 mi (71 km) downstream from Headgate Rock Dam.

DRAINAGE AREA.--186,200 mi<sup>2</sup> (482,300 km<sup>2</sup>), approximately, including 3,959 mi<sup>2</sup> (10,254 km<sup>2</sup>) in Great Divide basin in southern Wyoming, which is noncontributing (previously considered part of the Missouri River basin).

PERIOD OF RECORD.--April 1969 to current year. If records (available in files of Tucson District office) for the two Colorado River Indian Reservation drains entering below Palo Verde Dam are added to records for this station, records equivalent to those published 1956-69 as "Colorado River below Palo Verde Dam" can be obtained.

GAGE.--Two water-stage recorders, one above and one below dam, to record head on gates, and water-stage recorder to record gate opening. Supplementary water-stage recorder above dam operated by Geological Survey and supplementary water-stage recorder below dam operated by Palo Verde Irrigation District. Datum of gages is at mean sea level.

REMARKS.--Records good. Record does not include diversion to Palo Verde Canal. (See elsewhere in this report.) Daily discharge computed from relation between discharge, head, and gate openings. Many diversions above station for irrigation, municipal, and industrial uses. Flow regulated by Lake Mead, Lake Mohave, and Lake Havasu.

AVERAGE DISCHARGE.--8 years, 7,325 ft<sup>3</sup>/s (207.4 m<sup>3</sup>/s), 5,307,000 acre-ft/yr (6,540 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 13,300 ft<sup>3</sup>/s (377 m<sup>3</sup>/s) July 31, 1977; minimum daily, 1,060 ft<sup>3</sup>/s (30.0 m<sup>3</sup>/s) Nov. 25, 1972.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 13,300 ft<sup>3</sup>/s (377 m<sup>3</sup>/s) July 31; minimum daily, 1,350 ft<sup>3</sup>/s (38.2 m<sup>3</sup>/s) Aug. 20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4060	3710	5130	2350	4640	7240	8470	9540	8840	11800	12300	9120
2	3090	4910	5900	1810	5140	6710	9580	9090	8350	12600	12500	8530
3	4810	4480	5450	2780	5200	6120	9850	9620	7910	13100	11400	6870
4	4340	3630	6080	3100	5400	5880	10200	9760	10200	12500	10700	8060
5	5700	3490	5550	3440	5960	6350	10000	8280	10200	11800	11700	8450
6	6200	4530	5280	3090	6010	7800	10300	7350	10200	11300	13000	7820
7	6710	5130	5610	2500	6870	7980	10400	9000	9760	10000	13000	6030
8	6310	5170	5390	2400	7240	8020	9450	8710	9310	11300	12700	5700
9	6850	5260	5760	2040	7190	7080	10900	8780	8810	11500	12300	4450
10	7230	4180	4920	2000	6130	8240	11800	8540	8740	12000	11400	5630
11	7110	3380	5860	3770	5900	8140	10900	7430	8820	11800	11100	6510
12	5640	3070	6040	3460	6870	9000	11300	5720	8980	11500	12200	4810
13	5170	2530	5840	2840	7130	9900	11000	8210	8800	10800	12900	4620
14	5280	2120	5410	2490	7480	9250	10300	5310	8030	11000	12100	4830
15	4930	1950	5550	3380	6360	9250	10600	6340	7650	11100	11700	4710
16	4360	1740	4170	3920	6270	9270	11800	6250	7200	12300	8660	4380
17	5910	3000	4210	4260	6010	8640	11900	5300	6730	12500	3080	5870
18	4810	2620	5600	3950	5820	8370	12000	5610	8790	11900	1490	6660
19	5190	2530	5760	4070	6860	9660	11600	6190	9420	12500	1440	6580
20	5000	2990	5630	3500	7550	9420	11100	7350	9640	11300	1350	5860
21	4490	3080	4580	3430	7690	9310	10700	9370	9410	10300	3090	5420
22	4060	2940	3310	4030	8010	9530	10600	9230	9140	11400	3120	5020
23	2920	2720	1710	4100	7060	9440	11600	8810	7950	12500	5150	4310
24	2770	2310	3490	4580	7060	8890	11800	8080	8900	12300	4050	5140
25	2790	2300	4930	5280	7310	8780	11500	7530	11500	12100	4000	5640
26	2660	2380	5440	4820	7450	9740	9950	5750	11100	11900	3700	6230
27	3670	2800	5290	3540	8100	9570	9470	5630	11300	11600	6840	5770
28	3680	3320	4590	3850	7780	10000	8390	7980	11400	11200	8850	4730
29	3250	3490	3860	5310	---	8570	7430	8660	10800	12000	9500	4020
30	3340	4270	3320	4990	---	9060	9160	8970	10000	13200	9770	4190
31	3350	---	2740	5160	---	8820	---	8220	---	13300	9390	---
TOTAL	145680	100030	152400	110240	186490	264030	314050	240110	277880	366400	264480	175960
MEAN	4699	3334	4916	3556	6660	8517	10470	7745	9263	11820	8532	5865
MAX	7230	5260	6080	5310	8100	10000	12000	9620	11500	13300	13000	9120
MIN	2660	1740	1710	1810	4640	5880	7430	5300	6730	10000	1350	4020
AC-FT	289000	198400	302300	218700	369900	523700	622900	476300	551200	726800	524600	349000
CAL YR 1976 TOTAL	2640340	MEAN	7214	MAX	12900	MIN	1350	AC-FT	5237000			
WTR YR 1977 TOTAL	2597750	MEAN	7117	MAX	13300	MIN	1350	AC-FT	5153000			

## DIVERSIONS AND RETURN FLOWS BETWEEN PALO VERDE DAM AND IMPERIAL DAM

09429130 PALO VERDE IRRIGATION DISTRICT OLIVE LAKE DRAIN NEAR BLYTHE, CA

LOCATION.--Lat 33°40'36", long 114°32'09", in SW¼SW¼ sec.1, T.6 S., R.23 E., San Bernardino meridian, Riverside County, Hydrologic Unit 15030104, 0.3 mi (0.5 km) upstream from mouth, and 5 mi (8 km) northeast of Blythe.

PERIOD OF RECORD.--October 1968 to September 1970 (partial-record station), October 1970 to current year.

REMARKS.--Unpublished miscellaneous chemical analyses for water years 1962-68 available from district office in Tucson, Ariz.

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (CA, MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)
OCT 01...	0830	11	1670	8.0	22.0	560	300	150	44	160	3.0	6.1
NOV 01...	0935	6.0	1670	8.0	16.0	620	360	170	48	160	2.8	6.1
DEC 01...	0900	5.0	1730	8.0	9.0	560	300	150	46	170	3.1	5.9
JAN 05...	1020	4.0	1690	8.1	12.0	550	280	150	42	160	3.0	6.3
FEB 01...	0900	2.0	1670	7.9	14.0	550	280	150	43	150	2.8	6.0
MAR 01...	0830	8.0	1800	7.9	14.0	580	310	150	49	180	3.3	6.3
APR 01...	0740	10	1640	7.8	15.0	530	280	140	44	160	3.0	6.0
MAY 02...	1000	16	1620	7.8	20.0	530	290	140	43	150	2.8	5.9
JUN 01...	0810	15	1640	7.9	22.0	550	310	150	43	160	3.0	6.0
JUL 01...	0620	14	1650	7.5	24.5	530	280	140	43	160	3.0	5.8
AUG 01...	0725	52	1630	7.7	22.5	510	250	140	38	160	3.1	5.9
SEP 01...	0610	14	1660	7.8	23.0	560	300	150	46	150	2.7	5.7

09429130 PALO VERDE IRRIGATION DISTRICT OLIVE LAKE DRAIN NEAR BLYTHE, CA--Continued

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SiO2) (MG/L)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DIS- SOLVED SOLIDS (TONS PER AC-FT)	DIS- SOLVED NITRATE PLUS NITRATE (N) (MG/L)	DIS- SOLVED BORON (B) (UG/L)	DIS- SOLVED IRON (FF) (UG/L)
OCT												
01...	309	0	460	150	.3	21	1130	1150	1.54	.54	180	10
NOV												
01...	325	0	460	140	.4	19	1070	1170	1.46	.32	180	20
DEC												
01...	322	0	470	150	.3	21	1120	1180	1.52	.89	190	20
JAN												
05...	321	0	440	140	.4	21	1110	1120	1.51	.25	190	10
FEB												
01...	327	0	420	140	.5	18	1100	1090	1.50	.23	190	10
MAR												
01...	328	0	490	170	.4	18	1200	1230	1.63	.29	200	0
APR												
01...	300	0	430	140	.4	17	1110	1090	1.51	.33	180	10
MAY												
02...	290	0	420	140	.4	16	1110	1060	1.51	.41	170	20
JUN												
01...	300	0	410	140	.5	16	1130	1080	1.54	.40	180	10
JUL												
01...	300	0	430	140	.4	17	1000	1080	1.36	--	180	0
AUG												
01...	310	0	420	150	.4	18	1110	1090	1.51	--	180	20
SEP												
01...	320	0	430	140	.5	19	1110	1100	1.51	--	200	20

## DIVERSIONS AND RETURN FLOWS BETWEEN PALO VERDE DAM AND IMPERIAL DAM

09429220 PALO VERDE IRRIGATION DISTRICT OUTFALL DRAIN NEAR PALO VERDE, CA

LOCATION.--Lat 33°21'41", long 114°43'20", in SE¼SE¼ sec.26, T.9 S., R.21 E., San Bernardino meridian, Imperial County, Hydrologic Unit 15030104, at gaging station, at State Highway 78 bridge, 3.3 mi (5.3 km) upstream from mouth, and 5 mi (8 km) south of Palo Verde.

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	HARDNESS (CA, MG/L)	NON-CARBONATE HARDNESS (MG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG/L)	DISSOLVED SODIUM (NA) (MG/L)	SODIUM ADSORPTION RATIO
OCT											
04...	0915	679	2580	7.9	25.5	490	250	130	41	380	7.4
12...	0935	--	2670	--	24.5	--	--	--	--	--	--
18...	0835	--	2650	--	23.5	--	--	--	--	--	--
26...	0830	--	2710	--	20.5	--	--	--	--	--	--
NOV											
01...	1100	703	2500	8.3	13.5	500	260	130	42	360	7.0
08...	1045	--	2690	--	19.5	--	--	--	--	--	--
15...	1030	--	2810	--	13.5	--	--	--	--	--	--
16...	1200	--	--	7.5	20.0	--	--	--	--	--	--
22...	1045	--	2780	--	18.0	--	--	--	--	--	--
29...	1400	--	2740	--	11.5	--	--	--	--	--	--
DEC											
06...	1040	521	2750	8.1	14.0	510	250	130	44	420	8.1
13...	0955	--	2590	--	15.0	--	--	--	--	--	--
20...	1025	--	2640	--	15.0	--	--	--	--	--	--
27...	1020	--	2800	--	13.0	--	--	--	--	--	--
JAN											
03...	1045	473	2750	7.8	14.0	530	280	130	49	400	7.6
10...	1010	--	2900	--	11.5	--	--	--	--	--	--
17...	1025	--	2370	--	12.0	--	--	--	--	--	--
24...	1000	--	2580	--	13.0	--	--	--	--	--	--
25...	1100	--	--	7.9	15.0	--	--	--	--	--	--
31...	0930	--	2340	--	12.0	--	--	--	--	--	--
FEB											
07...	1130	388	2660	8.0	13.0	510	290	130	45	400	7.7
14...	1030	--	2870	--	18.0	--	--	--	--	--	--
22...	1530	--	2970	--	20.0	--	--	--	--	--	--
28...	0900	--	2930	--	15.5	--	--	--	--	--	--
MAR											
07...	1540	473	2710	8.1	13.5	520	270	140	41	400	7.6
08...	1030	--	--	7.8	17.5	--	--	--	--	--	--
14...	1140	--	2650	--	13.5	--	--	--	--	--	--
21...	0940	--	2530	--	18.0	--	--	--	--	--	--
28...	1200	--	2500	--	15.5	--	--	--	--	--	--
APR											
04...	1110	592	2430	8.1	15.5	500	270	130	42	350	6.8
11...	1000	--	2390	--	16.5	--	--	--	--	--	--
18...	0900	--	2650	--	18.0	--	--	--	--	--	--
25...	1030	--	2680	--	19.0	--	--	--	--	--	--
26...	0930	--	2800	7.9	23.0	--	--	--	--	--	--
26...	0931	--	2800	7.9	23.0	--	--	--	--	--	--
MAY											
02...	0940	664	2550	8.2	21.0	500	260	130	43	390	7.6
09...	1020	--	2530	--	20.5	--	--	--	--	--	--
16...	1225	--	2640	--	20.5	--	--	--	--	--	--
23...	1025	--	2790	--	23.0	--	--	--	--	--	--
31...	1010	--	2450	--	23.0	--	--	--	--	--	--
JUN											
06...	0840	666	2610	8.0	23.0	500	260	130	43	390	7.6
13...	0900	--	2540	--	23.0	--	--	--	--	--	--
20...	1215	--	2490	--	25.0	--	--	--	--	--	--
27...	0925	--	2440	--	23.5	--	--	--	--	--	--
JUL											
05...	1330	657	2610	7.8	24.0	510	250	130	44	400	7.7
11...	0830	--	2720	--	26.0	--	--	--	--	--	--
18...	0850	--	2650	--	30.0	--	--	--	--	--	--
19...	0930	--	2870	7.9	25.5	--	--	--	--	--	--
25...	1120	--	2750	--	30.0	--	--	--	--	--	--
AUG											
01...	0825	678	2790	7.8	26.0	530	260	140	44	410	7.7
08...	0925	--	2530	--	29.5	--	--	--	--	--	--
15...	0805	--	2610	--	26.5	--	--	--	--	--	--
22...	0725	--	2780	--	26.0	--	--	--	--	--	--
29...	0755	--	2700	--	25.0	--	--	--	--	--	--
SEP											
06...	0810	640	2630	7.6	26.5	460	240	110	46	420	8.5
12...	0730	--	2400	--	24.5	--	--	--	--	--	--
19...	0755	--	2680	--	22.0	--	--	--	--	--	--
26...	0850	--	2520	--	23.5	--	--	--	--	--	--



09429220 PALO VERDE IRRIGATION DISTRICT OUTFALL DRAIN NEAR PALO VERDE, CA--Continued

PERIOD OF RECORD.--October 1968 to current year.

REMARKS.--Unpublished miscellaneous chemical analyses for water years 1962-68 available from district office in Tucson, Ariz.

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	DIS- SOLVED PO- TAS- STUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLOR- IDE (CL) (MG/L)	DIS- SOLVED FLUOR- IDE (F) (MG/L)	DIS- SOLVED SILICA (SiO2) (MG/L)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L)	DIS- SOLVED SOLIDS (TONS PER AC-FT)	DIS- SOLVED NITRATE PLUS NITRITE (N) (MG/L)
OCT											
04...	6.6	301	0	550	370	1.1	20	1670	1650	2.27	.61
12...	--	--	--	--	--	--	--	1690	--	2.30	--
18...	--	--	--	--	--	--	--	1670	--	2.27	--
26...	--	--	--	--	--	--	--	1740	--	2.37	--
NOV											
01...	6.3	293	0	540	360	1.0	16	1600	1600	2.18	.52
08...	--	--	--	--	--	--	--	1750	--	2.38	--
15...	--	--	--	--	--	--	--	1830	--	2.49	--
16...	6.4	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	1790	--	2.43	--
29...	--	--	--	--	--	--	--	1780	--	2.42	--
DEC											
06...	6.4	311	0	580	430	1.2	20	1770	1790	2.41	.54
13...	--	--	--	--	--	--	--	1680	--	2.28	--
20...	--	--	--	--	--	--	--	1700	--	2.31	--
27...	--	--	--	--	--	--	--	1790	--	2.43	--
JAN											
03...	6.0	298	0	540	410	1.1	21	1770	1710	2.41	.61
10...	--	--	--	--	--	--	--	1860	--	2.53	--
17...	--	--	--	--	--	--	--	1550	--	2.11	--
24...	--	--	--	--	--	--	--	1650	--	2.24	--
25...	6.1	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	1490	--	2.03	--
FEB											
07...	6.5	268	0	560	400	1.1	16	1700	1690	2.31	.01
14...	--	--	--	--	--	--	--	1840	--	2.50	--
22...	--	--	--	--	--	--	--	1930	--	2.62	--
28...	--	--	--	--	--	--	--	1890	--	2.57	--
MAR											
07...	6.3	309	0	560	390	1.1	20	1750	1710	2.38	.81
08...	6.8	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	1710	--	2.33	--
21...	--	--	--	--	--	--	--	1630	--	2.22	--
28...	--	--	--	--	--	--	--	1600	--	2.18	--
APR											
04...	6.2	280	0	530	340	1.1	16	1550	1560	2.11	.49
11...	--	--	--	--	--	--	--	1510	--	2.05	--
18...	--	--	--	--	--	--	--	1690	--	2.30	--
25...	--	--	--	--	--	--	--	1710	--	2.33	--
26...	6.4	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--
MAY											
02...	6.2	300	0	540	350	1.2	16	1620	1630	2.20	.20
09...	--	--	--	--	--	--	--	1600	--	2.18	--
16...	--	--	--	--	--	--	--	1720	--	2.34	--
23...	--	--	--	--	--	--	--	1790	--	2.43	--
31...	--	--	--	--	--	--	--	1550	--	2.11	--
JUN											
06...	6.3	300	0	550	360	1.2	21	1660	1650	2.26	.44
13...	--	--	--	--	--	--	--	1640	--	2.23	--
20...	--	--	--	--	--	--	--	1620	--	2.20	--
27...	--	--	--	--	--	--	--	1540	--	2.09	--
JUL											
05...	6.4	310	0	570	370	1.2	20	1660	1700	2.26	.28
11...	--	--	--	--	--	--	--	1800	--	2.45	--
18...	--	--	--	--	--	--	--	1710	--	2.33	--
19...	5.7	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	1760	--	2.39	--
AUG											
01...	6.4	330	0	600	390	1.3	22	1790	1780	2.43	--
08...	--	--	--	--	--	--	--	1620	--	2.20	--
15...	--	--	--	--	--	--	--	1670	--	2.27	--
22...	--	--	--	--	--	--	--	1790	--	2.43	--
29...	--	--	--	--	--	--	--	1750	--	2.38	--
SEP											
06...	5.8	270	0	590	380	1.2	18	1720	1700	2.34	--
12...	--	--	--	--	--	--	--	1550	--	2.11	--
19...	--	--	--	--	--	--	--	1730	--	2.35	--
26...	--	--	--	--	--	--	--	1610	--	2.19	--

## DIVERSIONS AND RETURN FLOWS BETWEEN PALO VERDE DAM AND IMPERIAL DAM

09429220 PALO VERDE IRRIGATION DISTRICT OUTFALL DRAIN NEAR PALO VERDE, CA--Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	DIS- SOLVED BORON (B) (UG/L)	TOTAL COPPER (CU) (UG/L)	DIS- SOLVED COPPER (CU) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)	TOTAL MERCURY (HG) (UG/L)	TOTAL ZINC (ZN) (UG/L)	DIS- SOLVED ZINC (ZN) (UG/L)
OCT							
04...	520	--	--	10	--	--	--
NOV							
01...	490	--	--	10	--	--	--
16...	--	--	2	--	--	--	20
DEC							
06...	580	--	--	10	--	--	--
JAN							
03...	560	--	--	10	--	--	--
25...	--	--	4	--	--	--	40
FEB							
07...	560	--	--	0	--	--	--
MAR							
07...	540	--	--	10	--	--	--
08...	--	--	2	--	--	--	20
APR							
04...	460	--	--	10	--	--	--
26...	--	--	1	--	--	--	10
MAY							
02...	500	--	--	10	--	--	--
JUN							
06...	510	--	--	20	--	--	--
JUL							
05...	510	--	--	0	--	--	--
19...	--	<10	10	--	.1	70	70
AUG							
01...	600	--	--	10	--	--	--
SEP							
06...	560	--	--	0	--	--	--

&lt; Actual value is known to be less than value shown.

PESTICIDE ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

[illegible]

## DIVERSIONS AND RETURN FLOWS BETWEEN PALO VERDE DAM AND IMPERIAL DAM

09429220 PALO VERDE IRRIGATION DISTRICT OUTFALL DRAIN NEAR PALO VERDE, CA--Continued

PESTICIDE ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	DT- ELDRIN IN BOTTOM MA- TERIAL (UG/KG)	TOTAL ENDRIN (UG/L)	ENDRIN IN BOTTOM MA- TERIAL (UG/KG)	TOTAL ETHION (UG/L)	ETHION IN BOTTOM MA- TERIAL (UG/KG)	TOTAL HEPTA- CHLOR (UG/L)	HEPTA- CHLOR IN BOTTOM MA- TERIAL (UG/KG)	TOTAL HEPTA- CHLOR EPOXIDE (UG/L)	HEPTA- CHLOR EPOXIDE IN BOTTOM MA- TERIAL (UG/KG)
NOV 16...	1200	--	.00	--	--	--	.00	--	.00	--
JAN 25...	1100	--	.00	--	.00	--	.00	--	.00	--
MAR 08...	1030	--	.00	--	.00	--	.00	--	.00	--
APR 26...	0930	--	.00	--	.00	--	.00	--	.00	--
JUL 19...	0930	--	.00	--	.00	--	.00	--	.00	--
SEP 13...	0900	.1	.00	.0	.00	.0	.00	.0	.00	.0

DATE	TOTAL LINDANE (UG/L)	LINDANE IN BOTTOM MA- TERIAL (UG/KG)	TOTAL MALA- THION (UG/L)	MALA- THION IN BOTTOM MA- TERIAL (UG/KG)	TOTAL METHYL PARA- THION (UG/L)	METHYL PARA- THION IN BOTTOM MA- TERIAL (UG/KG)	TOTAL METHYL TRI- THION (UG/L)	METHYL TRI- THION IN BOTTOM MA- TERIAL (UG/KG)	TOTAL PARA- THION (UG/L)	PARA- THION IN BOTTOM MA- TERIAL (UG/KG)
NOV 16...	.00	--	--	--	--	--	--	--	--	--
JAN 25...	.00	--	.00	--	.00	--	.00	--	.00	--
MAR 08...	.00	--	.06	--	.00	--	.00	--	.00	--
APR 26...	.00	--	.00	--	.00	--	.00	--	.00	--
JUL 19...	.00	--	.00	--	.00	--	.00	--	.00	--
SEP 13...	.00	.0	.00	.0	.16	.0	.00	.0	.04	.0

DATE	TOTAL TUX- APHENE (UG/L)	TUX- APHENE IN BOTTOM MA- TERIAL (UG/KG)	TOTAL TRI- THION (UG/L)	TRI- THION IN BOTTOM MA- TERIAL (UG/KG)	TOTAL 2,4-D (UG/L)	2,4-D IN BOTTOM MA- TERIAL (UG/KG)	TOTAL 2,4,5-T (UG/L)	2,4,5-T IN BOTTOM MA- TERIAL (UG/KG)	TOTAL SILVEX (UG/L)	SILVEX IN BOTTOM MA- TERIAL (UG/KG)
NOV 16...	0	--	--	--	--	--	--	--	--	--
JAN 25...	0	--	.00	--	.00	--	.00	--	.00	--
MAR 08...	0	--	.00	--	.02	--	.00	--	.00	--
APR 26...	0	--	.00	--	.04	--	.00	--	.00	--
JUL 19...	0	--	.00	--	.00	--	.00	--	.01	--
SEP 13...	0	13	.00	.0	.00	0	.00	0	.00	0

09429225 PALO VERDE IRRIGATION DISTRICT ANDERSON DRAIN NEAR PALO VERDE, CA

LOCATION.--Lat 33°21'19", long 114°43'00", in SW¼ sec.36, T.9 S., R.21 E., San Bernardino meridian, Imperial County, Hydrologic Unit 15030104, 0.1 mi (0.2 km) upstream from pump into Outfall drain, and 5.5 mi (8.8 km) south of Palo Verde.

PERIOD OF RECORD.--Water year 1969 (partial-record station), October 1969 to current year.

REMARKS.--Unpublished miscellaneous chemical analyses for water years 1966-68 available from district office in Tucson, Ariz.

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	HARDNESS (CA, MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)	DIS-SOLVED CALCIUM (CA) (MG/L)	DIS-SOLVED MAGNESIUM (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	SODIUM ADSORPTION RATIO	DIS-SOLVED POTASSIUM (K) (MG/L)
OCT 01...	1610	.00	3430	8.6	28.0	500	150	110	55	600	12	17
NOV 01...	1445	1.6	1920	8.0	23.0	410	160	98	40	280	6.0	8.0
DEC 01...	1650	1.2	1530	7.9	15.0	300	130	67	32	190	4.8	13
JAN 03...	1425	1.2	2350	8.1	19.0	290	0	67	30	420	11	6.4
FEB 01...	1345	.42	2460	8.2	18.0	230	0	53	24	480	14	3.7
MAR 01...	1525	.80	2620	8.4	--	220	0	50	24	530	15	4.5
APR 01...	1155	.20	2490	8.4	18.0	220	0	48	24	480	14	3.8
MAY 03...	1110	.80	2440	8.0	25.0	280	0	64	29	450	12	4.9
JUN 01...	1650	.80	2390	8.0	31.0	290	0	67	30	440	11	9.1
JUL 01...	0955	.80	2700	7.9	25.0	150	0	38	14	600	21	3.1
AUG 01...	1340	1.2	2450	8.2	27.5	230	0	53	23	500	14	4.5
SEP 01...	0940	1.2	2570	8.0	25.0	250	0	57	26	490	14	4.1

DATE	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLORIDE (CL) (MG/L)	DIS-SOLVED FLUORIDE (F) (MG/L)	DIS-SOLVED SILICA (SiO2) (MG/L)	DIS-SOLVED SOLIDS (KFST-DUF AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DIS-SOLVED SOLIDS (TENS PER AC-FT) (MG/L)	DIS-SOLVED NITRATE PLUS NITRATE (N) (MG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED IRON (FE) (UG/L)
OCT 01...	411	10	620	550	.5	23	2180	2190	2.96	.12	660	70
NOV 01...	309	0	480	180	.8	18	1230	1260	1.67	.20	410	120
DEC 01...	208	0	370	130	2.5	16	944	928	1.28	1.1	270	30
JAN 03...	434	0	530	230	1.2	21	1500	1520	2.04	.06	610	90
FEB 01...	477	0	550	230	1.6	22	1570	1600	2.14	.06	690	30
MAR 01...	488	2	590	260	1.7	21	1690	1730	2.30	.06	770	90
APR 01...	470	4	540	230	1.7	19	1590	1580	2.16	.03	730	90
MAY 03...	470	0	530	220	1.5	22	1570	1560	2.14	.64	670	70
JUN 01...	430	0	500	240	1.3	23	1550	1530	2.11	1.1	640	190
JUL 01...	510	0	580	260	2.1	23	1710	1770	2.33	--	880	400
AUG 01...	470	0	550	250	1.6	24	1560	1640	2.12	--	710	270
SEP 01...	510	0	570	250	1.6	25	1620	1680	2.20	--	800	50

## COLORADO RIVER MAIN STEM

09429490 COLORADO RIVER ABOVE IMPERIAL DAM, AZ-CA

(National stream-quality accounting network, pesticide, radiochemical, and tritium network station)

LOCATION.--Lat 32°52'59", long 114°27'55", at Imperial Dam. The Arizona end of the dam is in SW¼NW¼ sec.30, T.6 S., R.21 W., Gila and Salt River meridian, Yuma County, Hydrologic Unit 15030104; the California end is in NW¼SW¼ sec.9, T.15 S., R.24 E., San Bernardino meridian, Imperial County, Hydrologic Unit 15030104. Imperial Dam is 5 mi (8 km) upstream from Laguna Dam, 15 mi (24 km) northeast of Yuma, Ariz., 90 mi (145 km) downstream from Palo Verde Dam, and 147 mi (237 km) downstream from Parker Dam.

DRAINAGE AREA.--188,500 mi<sup>2</sup> (488,200 km<sup>2</sup>), approximately, including 3,959 mi<sup>2</sup> (10,254 km<sup>2</sup>) in Great Divide basin in southern Wyoming, which is noncontributing (previously considered part of the Missouri River basin).

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--1903-34 (yearly discharge only, published in WSP 1313), July 1934 to current year (monthly discharge only since October 1942). Prior to October 1942 published as "near Picacho, Calif." October 1942 to September 1971 published as "at Imperial Dam" (monthly discharge shown as "flow reaching Imperial Dam," listed as supplement to "flow passing Imperial Dam").

GAGE.--None. This record is synthesized from records of several other stations (see REMARKS). July 13, 1934, to Sept. 30, 1942, water-stage recorder at site 14.5 mi (23.3 km) upstream at datum 167.38 ft (51.017 m) above mean sea level.

REMARKS.--Records show flow of Colorado River reaching Imperial Dam, and are based on combined monthly total flow of Colorado River below Imperial Dam (sta 09429500), All-American Canal near Imperial Dam (sta 09523000), Gila Gravity Main Canal at Imperial Dam (sta 09522500), and diversions to Mittry Lake (sta 09522400). Records for 1903-34 and for October 1942 to September 1960 were computed as combined flow of Colorado River at Yuma (sta 09521000) and the canals diverting at Imperial and Laguna Dams, less the flow of Gila River near Dome (sta 09520500); for some of these periods drainage and waste return flows and channel losses between the gaging stations and Imperial Dam were considered, and for other periods they were neglected. Records for July 1934 to September 1942 show daily discharge of Colorado River at gaging station near Picacho, Calif.

Natural flow of Colorado River at this point affected by transmountain diversions, storage reservoirs, power developments, ground-water withdrawals, and diversions for irrigation, municipal, and industrial uses, and return flows from irrigated areas. Diversions to Mittry Lake, which began June 23, 1970, are included in river records in table below. Additional regulation, beginning Jan. 31, 1966, to equalize supplies for downstream water users, is provided by pumped storage in reservoir on Senator Wash, about 2 mi (3 km) upstream from Imperial Dam. Monthend contents of Senator Wash Reservoir—capacity, 13,840 acre-ft (17.1 hm<sup>3</sup>)—is given in table below.

COOPERATION.--Records of Sparling meter readings of diversion to Mittry Lake and contents of Senator Wash Reservoir furnished by Bureau of Reclamation.

AVERAGE DISCHARGE.--43 years (water years 1935-77), 11,040 ft<sup>3</sup>/s (312.6 m<sup>3</sup>/s), 7,998,000 acre-ft/yr (9,860 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF 1934-77.--Maximum discharge, 40,800 ft<sup>3</sup>/s (1,160 m<sup>3</sup>/s) Sept. 5, 1939; minimum, 538 ft<sup>3</sup>/s (15.2 m<sup>3</sup>/s) Aug. 3, 1934; minimum daily since regulation of Hoover Dam began, 1,450 ft<sup>3</sup>/s (41.1 m<sup>3</sup>/s) Feb. 17, 1935.

09429490 COLORADO RIVER ABOVE IMPERIAL DAM, AZ-CA--Continued

COLORADO RIVER ABOVE IMPERIAL DAM, DIVERSIONS TO MITTRY LAKE, AND MONTHEND CONTENTS OF SENATOR WASH RESERVOIR,  
WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

Month	Discharge of Colorado River		Diversions to Mitty Lake (acre-feet)* (09522400)	Monthend contents, Senator Wash Reservoir (acre-feet)
	Mean (cubic feet per second)	Runoff (acre-feet)		
October.....	6,007	369,300	596	6,500
November.....	4,315	256,800	577	4,960
December.....	5,778	355,300	619	9,550
CAL YR 1976.....	8,153	5,902,000	7,180	-----
January.....	4,300	264,400	644	7,420
February.....	7,012	389,400	645	10,450
March.....	9,249	568,700	706	10,110
April.....	11,442	680,800	589	6,480
May.....	8,682	533,800	696	6,200
June.....	9,847	585,900	597	1,870
July.....	11,930	733,600	582	6,730
August.....	9,805	602,900	653	4,360
September.....	7,276	432,900	591	7,900
WTR YR 1977.....	7,975	5,774,000	7,500	-----

\* Included in first two columns of table.

NOTE.--Discharge of Colorado River, in first two columns of table above, is combined discharge of Colorado River below Imperial Dam (sta 09429500) and diversions to All-American Canal, Gila Gravity Main Canal, and Mitty Lake.

## COLORADO RIVER MAIN STEM

09429490 COLORADO RIVER ABOVE IMPERIAL DAM, AZ-CA--Continued

## WATER-QUALITY RECORDS

LOCATION.--Water samples collected above trash racks at All-American Canal headworks at west end of Imperial Dam.

PERIOD OF RECORD.--August 1969 to current year.

Prior to October 1971, published as sta 09429500, Colorado River at Imperial Dam, Ariz.-Calif.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1969 to current year.

WATER TEMPERATURES: October 1974 to current year.

REMARKS.--Replaces water-quality station 09525500 Yuma Main Canal below Colorado River Siphon, at Yuma, Ariz. Stream discharges reported with analyses represent total flow reaching Imperial Dam. Since January 1971, daily specific-conductance measurements have been made using a composite of four water samples taken at 6-hour intervals. Composites of four water samples per day are analyzed for major chemical constituents weekly.

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	DIS- CHARGE (CFS)	INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	DIS- SOLVED OXYGEN (MG/L)	CHEM- ICAL OXYGEN DEMAND (HIGH LEVEL) (MG/L)	FECAL COLI- FORM .7UM-MF (COL./ 100 ML)	FECAL STREP- TOCOCFI KF AGAR (COL. PER 100 ML)
OCT											
04...	--	6200	--	1300	8.3	--	36	--	--	--	--
06...	0840	--	7020	1400	8.0	22.5	--	7.6	12	B210	--
11...	--	7730	--	1270	8.0	--	15	--	--	--	--
18...	--	5860	--	1350	8.3	--	5.0	--	--	--	--
19...	1000	--	5910	--	--	28.0	--	--	20	--	--
25...	--	4770	--	1390	8.3	--	8.0	--	--	--	--
NOV											
01...	--	4150	--	1460	8.3	--	6.0	--	--	--	--
08...	--	5480	--	1390	8.4	--	5.0	--	--	--	--
10...	0845	--	5790	1290	8.0	18.0	--	8.9	36	B73	--
15...	--	3140	--	1070	8.3	--	3.0	--	--	--	--
22...	--	3780	--	1540	8.3	--	3.0	--	--	--	--
22...	1055	--	3880	--	--	17.0	--	--	9	--	--
29...	--	4330	--	1500	8.3	--	3.0	--	--	--	--
DEC											
06...	--	6020	--	1310	8.3	--	7.0	--	--	--	--
08...	0900	--	6260	1320	8.0	11.0	--	10.0	15	36	120
13...	--	6590	--	1330	8.2	--	5.0	--	--	--	--
20...	--	6050	--	1350	8.3	--	5.0	--	--	--	--
20...	1115	--	5950	--	--	12.0	--	--	14	--	--
27...	--	5320	--	1420	8.3	--	4.0	--	--	--	--
JAN											
03...	--	3600	--	1440	8.2	--	3.0	--	--	--	--
10...	--	3440	--	1500	8.2	--	2.0	--	--	--	--
12...	0910	--	3620	1620	8.1	9.0	--	10.3	29	B9	48
17...	--	3920	--	1510	8.2	--	2.0	--	--	--	--
24...	--	4390	--	1380	8.2	--	5.0	--	--	--	--
25...	1000	--	4690	--	--	12.5	--	--	21	--	--
31...	--	5770	--	1350	8.2	--	3.0	--	--	--	--
FEB											
07...	--	6350	--	1300	8.2	--	3.0	--	--	--	--
09...	0850	--	7020	1290	8.0	12.0	--	9.8	28	22	42
14...	--	7260	--	1270	8.2	--	6.0	--	--	--	--
21...	--	7510	--	1280	8.3	--	4.0	--	--	--	--
22...	1015	--	10100	--	--	16.0	--	--	2	--	--
28...	--	7950	--	1270	8.2	--	3.0	--	--	--	--
MAR											
07...	--	7800	--	1320	8.2	--	5.0	--	--	--	--
09...	0900	--	8770	1350	7.6	14.0	--	10.1	20	B12	45
14...	--	9660	--	1240	8.2	--	6.0	--	--	--	--
21...	--	9150	--	1240	8.3	--	4.0	--	--	--	--
22...	1100	--	9420	--	--	13.0	--	--	28	--	--
28...	--	10100	--	1250	8.3	--	5.0	--	--	--	--
APR											
04...	--	10400	--	1250	8.4	--	5.0	--	--	--	--
11...	--	11300	--	1240	8.4	--	4.0	--	--	--	--
13...	0830	--	12400	1300	8.0	17.0	--	8.6	15	70	120
18...	--	12000	--	1210	8.4	--	3.0	--	--	--	--
25...	--	11900	--	1220	8.4	--	2.0	--	--	--	--
25...	1030	--	11900	--	--	22.0	--	--	13	--	--
MAY											
02...	--	9590	--	1260	8.4	--	4.0	--	--	--	--
04...	0835	--	10200	1280	8.0	20.5	--	8.1	33	40	97
09...	--	9280	--	1270	8.4	--	2.0	--	--	--	--
16...	--	7260	--	1350	8.3	--	2.0	--	--	--	--
23...	--	9370	--	1250	8.2	--	2.0	--	--	--	--
23...	1315	--	9450	--	--	23.0	--	--	10	--	--
30...	--	8070	--	1270	8.2	--	2.0	--	--	--	--

B Based on non-ideal colony count.



09429490 COLORADO RIVER ABOVE IMPERIAL DAM, AZ-CA--Continued

COOPERATION.--Daily water temperature record furnished by Bureau of Reclamation.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 1,880 micromhos Nov. 21, 1969; minimum daily, 939 micromhos Sept. 26, 1976.  
WATER TEMPERATURES: Maximum daily, 33.0°C Aug. 20, 1977; minimum daily, 9.0°C Dec. 26, 1974, Jan. 4, 1976.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 1,670 micromhos Aug. 23; minimum daily, 1,140 micromhos Aug. 17.  
WATER TEMPERATURES: Maximum daily, 33.0°C Aug. 20; minimum daily, 10.5°C Dec. 28.

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	HARD- NESS (CA, MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	TOTAL CAL- CIUM (CA) (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	TOTAL MAG- NESIUM (MG) (MG/L)	DIS- SOLVED MAG- NESIUM (MG) (MG/L)	TOTAL SODIUM (NA) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	TOTAL PO- TAS- SIUM (K) (MG/L)	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)
OCT											
04...	345	200	--	88	--	31	--	145	3.4	--	6.4
06...	--	--	--	--	--	--	--	--	--	--	--
11...	355	214	--	92	--	31	--	135	3.1	--	5.7
18...	365	216	--	90	--	34	--	150	3.4	--	6.2
19...	--	--	--	--	--	--	--	--	--	--	--
25...	365	214	--	94	--	32	--	160	3.6	--	6.2
NOV											
01...	390	230	--	98	--	35	--	165	3.6	--	5.8
08...	370	219	--	92	--	34	--	160	3.6	--	5.8
10...	--	--	88	--	32	--	140	--	--	4.7	5.5
15...	390	228	--	96	--	37	--	170	3.7	--	5.9
22...	400	232	--	99	--	37	--	180	3.9	--	5.7
22...	--	--	--	--	--	--	--	--	--	--	--
29...	390	228	--	98	--	35	--	175	3.9	--	6.3
DEC											
06...	355	208	--	90	--	32	--	145	3.3	--	5.9
08...	--	--	--	--	--	--	--	--	--	--	--
13...	365	218	--	92	--	33	--	145	3.3	--	5.8
20...	365	214	--	94	--	32	--	150	3.4	--	6.0
20...	--	--	--	--	--	--	--	--	--	--	--
27...	385	228	--	97	--	35	--	160	3.5	--	5.8
JAN											
03...	390	230	--	98	--	35	--	160	3.5	--	5.6
10...	390	228	--	102	--	33	--	175	3.9	--	5.8
12...	--	--	--	--	--	--	--	--	--	--	--
17...	395	230	--	101	--	35	--	175	3.8	--	5.8
24...	375	221	--	94	--	34	--	155	3.5	--	5.7
25...	--	--	--	--	--	--	--	--	--	--	--
31...	370	221	--	91	--	35	--	150	3.4	--	5.3
FEB											
07...	365	222	--	88	--	35	--	140	3.2	--	5.2
09...	--	--	88	--	32	--	130	--	--	4.5	--
14...	360	218	--	89	--	34	--	135	3.1	--	5.7
21...	365	218	--	90	--	34	--	135	3.1	--	5.6
22...	--	--	--	--	--	--	--	--	--	--	--
28...	360	214	--	88	--	34	--	135	3.1	--	5.4
MAR											
07...	365	216	--	91	--	34	--	145	3.3	--	5.5
09...	--	--	--	--	--	--	--	--	--	--	--
14...	355	212	--	89	--	32	--	130	3.0	--	5.4
21...	355	212	--	90	--	32	--	130	3.0	--	5.5
22...	--	--	--	--	--	--	--	--	--	--	--
28...	360	216	--	91	--	32	--	130	3.0	--	5.4
APR											
04...	360	216	--	92	--	32	--	130	3.0	--	5.4
11...	355	214	--	90	--	32	--	130	3.0	--	5.4
13...	--	--	--	--	--	--	--	--	--	--	--
18...	350	209	--	88	--	32	--	125	2.9	--	5.2
25...	350	209	--	90	--	31	--	125	2.9	--	5.2
25...	--	--	--	--	--	--	--	--	--	--	--
MAY											
02...	360	214	--	90	--	33	--	135	3.1	--	5.6
04...	--	--	93	--	31	--	110	--	--	5.0	5.1
09...	365	216	--	92	--	33	--	135	3.1	--	5.2
16...	370	212	--	93	--	34	--	150	3.4	--	5.6
23...	360	214	--	90	--	33	--	130	3.0	--	5.2
23...	--	--	--	--	--	--	--	--	--	--	--
30...	360	212	--	91	--	32	--	135	3.1	--	5.2

09429490 COLORADO RIVER ABOVE IMPERIAL DAM, AZ-CA--Continued

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	DIS-CHARGE (CFS)	INSTANTANEOUS DIS-CHARGE (CFS)	SPE-CIFIC CON-DUCT-ANCE (MTCRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DFG C)	TUR-BID-ITY (NTU)	DIS-SOLVED OXYGEN (MG/L)	CHEM-ICAL OXYGEN DEMAND (HIGH LEVEL)	FECAL COLI-FORM .7UM-MF (COL./100 ML)	FECAL STREPT-OCOCCI KF AGAR (COL. PER 100 ML)
JUN											
06...	--	9690	--	1230	8.4	--	2.0	--	--	--	--
08...	0830	--	10200	1240	8.1	26.5	--	8.6	7	863	150
13...	--	8710	--	1270	8.4	--	2.0	--	--	--	--
20...	--	9500	--	1260	8.4	--	1.0	--	--	--	--
27...	--	1860	--	1230	8.2	--	1.0	--	--	--	--
27...	1000	--	10800	--	--	27.0	--	--	18	--	--
JUL											
04...	--	11600	--	1210	8.0	--	3.0	--	--	--	--
11...	--	11600	--	1220	8.0	--	2.0	--	--	--	--
13...	0850	--	12400	1230	7.8	27.0	--	7.1	0	29	120
18...	--	12000	--	1210	8.0	--	4.0	--	--	--	--
25...	--	12000	--	1210	7.9	--	2.0	--	--	--	--
25...	1025	--	11900	--	--	29.0	--	--	0	--	--
AUG											
01...	--	12700	--	1200	7.9	--	2.0	--	--	--	--
08...	--	12300	--	1210	8.0	--	2.0	--	--	--	--
10...	0915	--	12810	1230	8.0	29.0	--	5.4	10	32	37
15...	--	11500	--	1210	7.9	--	1.0	--	--	--	--
22...	--	3820	--	1600	8.1	--	8.0	--	--	--	--
23...	1030	--	4660	--	--	29.5	--	--	14	--	--
29...	--	9670	--	1320	8.0	--	3.0	--	--	--	--
SEP											
05...	--	8050	--	1290	7.9	--	3.0	--	--	--	--
12...	--	7320	--	1170	7.9	--	250	--	--	--	--
14...	0900	--	6270	1280	7.8	28.0	--	7.0	220	90	430
19...	--	6880	--	1340	8.0	--	8.0	--	--	--	--
26...	--	6260	--	1350	7.9	--	2.0	--	--	--	--
27...	1100	--	6510	--	--	25.0	--	--	29	--	--

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

[illegible]



## COLORADO RIVER MAIN STEM

09429490 COLORADO RIVER ABOVE IMPERIAL DAM, AZ-CA--Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TOTAL NITRATE (N) (MG/L)	DIS- SOLVED NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	DIS- SOLVED NITRITE (N) (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)
OCT							
04...	--	.25	--	--	--	--	--
06...	.25	--	.01	.01	.26	.25	.00
11...	--	.16	--	--	--	--	--
18...	--	.14	--	--	--	--	--
19...	.18	--	.00	--	.18	--	.21
25...	--	.11	--	--	--	--	--
NOV							
01...	--	.23	--	--	--	--	--
08...	--	.14	--	--	--	--	--
10...	.21	--	.01	.00	.22	.20	.00
15...	--	.16	--	--	--	--	--
22...	--	.18	--	--	--	--	--
22...	.03	--	.01	--	.04	--	.02
29...	--	.25	--	--	--	--	--
DEC							
06...	--	.18	--	--	--	--	--
08...	.25	--	.00	.01	.25	.15	.01
13...	--	.59	--	--	--	--	--
20...	--	.16	--	--	--	--	--
20...	.21	--	.00	--	.21	--	.00
27...	--	.25	--	--	--	--	--
JAN							
03...	--	.20	--	--	--	--	--
10...	--	.20	--	--	--	--	--
12...	.20	--	.01	.01	.21	.22	.00
17...	--	.16	--	--	--	--	--
24...	--	.18	--	--	--	--	--
25...	.18	--	.00	--	.18	--	.00
31...	--	.20	--	--	--	--	--
FEB							
07...	--	.20	--	--	--	--	--
09...	.20	--	.00	.00	.20	.20	.02
14...	--	.25	--	--	--	--	--
21...	--	.16	--	--	--	--	--
22...	.20	--	.01	--	.21	--	.01
28...	--	.16	--	--	--	--	--
MAR							
07...	--	.20	--	--	--	--	--
09...	.22	--	.00	.01	.22	.31	.04
14...	--	.23	--	--	--	--	--
21...	--	.16	--	--	--	--	--
22...	.25	.26	.00	.00	.25	.26	.02
28...	--	.16	--	--	--	--	--
APR							
04...	--	.14	--	--	--	--	--
11...	--	.07	--	--	--	--	--
13...	.09	--	.01	.00	.10	.12	.03
18...	--	.09	--	--	--	--	--
25...	--	.07	--	--	--	--	--
25...	.09	--	.00	--	.09	--	.01
MAY							
02...	--	.09	--	--	--	--	--
04...	.15	.12	.01	.00	.16	.12	.05
09...	--	.14	--	--	--	--	--
16...	--	.16	--	--	--	--	--
23...	--	.09	--	--	--	--	--
23...	.14	--	.00	--	.14	--	.00
30...	--	.11	--	--	--	--	--
JUN							
06...	--	.07	--	--	--	--	--
08...	.08	--	.01	.00	.09	.14	.01
13...	--	.09	--	--	--	--	--
20...	--	.09	--	--	--	--	--
27...	--	.07	--	--	--	--	--
27...	.08	--	.00	--	.08	--	.01
JUL							
04...	--	.09	--	--	--	--	--
11...	--	.09	--	--	--	--	--
13...	.08	--	.01	.00	.09	.08	.00
18...	--	.09	--	--	--	--	--
25...	--	.11	--	--	--	--	--
25...	.09	--	.01	--	.10	--	.00
AUG							
01...	--	.07	--	--	--	--	--
08...	--	.07	--	--	--	--	--
10...	.06	--	.01	.00	.07	.10	.02
15...	--	.09	--	--	--	--	--
22...	--	.14	--	--	--	--	--
23...	.04	--	.01	--	.05	--	.03
29...	--	.09	--	--	--	--	--
SEP							
05...	--	.11	--	--	--	--	--
12...	--	.99	--	--	--	--	--
14...	.27	--	.01	.00	.28	.24	.00
19...	--	.14	--	--	--	--	--
26...	--	.09	--	--	--	--	--
27...	.10	--	.01	--	.11	--	.00

09429490 COLORADO RIVER ABOVE IMPERIAL DAM, AZ-CA--Continued

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TOTAL ORGANIC NITRO- GEN (N) (MG/L)	TOTAL KJFL- DAHL- NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	DIS- SOL- VED- PHOS- PHORUS (P) (MG/L)	DIS- SOLVFD ORTHOD. PHOS- PHORUS (P) (MG/L)
OCT						
04...	--	--	--	--	--	--
06...	.65	.65	.91	.09	--	.01
11...	--	--	--	--	--	--
18...	--	--	--	--	--	--
19...	.36	.57	.75	.04	--	--
25...	--	--	--	--	--	--
NOV						
01...	--	--	--	--	--	--
08...	--	--	--	--	--	--
10...	.43	.43	.65	.03	.00	.00
15...	--	--	--	--	--	--
22...	--	--	--	--	--	--
22...	.40	.42	.46	.03	--	--
29...	--	--	--	--	--	--
DEC						
06...	--	--	--	--	--	--
08...	.17	.18	.43	.05	--	.00
13...	--	--	--	--	--	--
20...	--	--	--	--	--	--
20...	.41	.41	.62	.06	--	--
27...	--	--	--	--	--	--
JAN						
03...	--	--	--	--	--	--
10...	--	--	--	--	--	--
12...	.52	.52	.73	.04	--	.01
17...	--	--	--	--	--	--
24...	--	--	--	--	--	--
25...	.28	.28	.46	.01	--	--
31...	--	--	--	--	--	--
FEB						
07...	--	--	--	--	--	--
09...	.35	.37	.57	.05	.01	.02
14...	--	--	--	--	--	--
21...	--	--	--	--	--	--
22...	.32	.33	.58	.05	--	--
28...	--	--	--	--	--	--
MAR						
07...	--	--	--	--	--	--
09...	.39	.43	.65	.06	--	.00
14...	--	--	--	--	--	--
21...	--	--	--	--	--	--
22...	.77	.79	1.0	.05	--	.01
28...	--	--	--	--	--	--
APP						
04...	--	--	--	--	--	--
11...	--	--	--	--	--	--
13...	.48	.51	.61	.05	--	.01
18...	--	--	--	--	--	--
25...	--	--	--	--	--	--
25...	.28	.29	.38	.01	--	--
MAY						
02...	--	--	--	--	--	--
04...	.04	.09	.25	.05	.00	.04
09...	--	--	--	--	--	--
16...	--	--	--	--	--	--
23...	--	--	--	--	--	--
23...	--	--	--	.02	--	--
30...	--	--	--	--	--	--
JUN						
06...	--	--	--	--	--	--
08...	.35	.36	.45	.04	--	.00
13...	--	--	--	--	--	--
20...	--	--	--	--	--	--
27...	--	--	--	--	--	--
27...	.55	.56	.64	.03	--	--
JUL						
04...	--	--	--	--	--	--
11...	--	--	--	--	--	--
13...	.48	.48	.57	.03	--	.00
18...	--	--	--	--	--	--
25...	--	--	--	--	--	--
25...	.41	.41	.51	.01	--	--
AUG						
01...	--	--	--	--	--	--
08...	--	--	--	--	--	--
10...	.33	.35	.42	.03	.01	.01
15...	--	--	--	--	--	--
22...	--	--	--	--	--	--
23...	.62	.65	.70	.07	--	--
29...	--	--	--	--	--	--
SEP						
05...	--	--	--	--	--	--
12...	--	--	--	--	--	--
14...	.38	.38	.66	.04	--	.00
19...	--	--	--	--	--	--
26...	--	--	--	--	--	--
27...	.02	.02	.13	.03	--	--

## COLORADO RIVER MAIN STEM

09429490 COLORADO RIVER ABOVE IMPERIAL DAM, AZ-CA--Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TOTAL ARSENIC (AS) (UG/L)	DIS- SOLVED ARSENIC (AS) (UG/L)	DIS- SOLVED BORON (B) (UG/L)	TOTAL CAD- MIUM (CD) (UG/L)	DIS- SOLVED CAD- MIUM (CD) (UG/L)	DIS- SOLVED CHRO- MIUM (CR) (UG/L)	TOTAL COBALT (CO) (UG/L)	DIS- SOLVED COBALT (CO) (UG/L)	TOTAL COPPER (CU) (UG/L)	DIS- SOLVED COPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)
OCT											
06...	--	--	200	--	--	--	--	--	--	--	1400
19...	--	--	--	--	--	--	--	--	--	--	560
NOV											
10...	3	2	180	<10	0	10	<50	0	<10	0	560
22...	--	--	--	--	--	--	--	--	--	--	280
DEC											
08...	--	--	170	--	--	--	--	--	--	--	750
20...	--	--	180	--	--	--	--	--	--	--	590
JAN											
12...	--	--	220	--	--	--	--	--	--	--	330
25...	--	--	170	--	--	--	--	--	--	--	280
FEB											
09...	2	2	150	<10	0	0	<50	0	<10	1	990
22...	--	--	160	--	--	--	--	--	--	--	680
MAR											
09...	--	--	170	--	--	--	--	--	--	--	4400
22...	--	--	230	--	--	--	--	--	--	--	960
APR											
13...	--	--	170	--	--	--	--	--	--	--	650
25...	--	--	150	--	--	--	--	--	--	--	640
MAY											
04...	3	2	160	<10	0	10	<50	0	<10	0	590
23...	--	--	170	--	--	--	--	--	--	--	390
JUN											
08...	--	--	170	--	--	--	--	--	--	--	580
27...	--	--	160	--	--	--	--	--	--	--	360
JUL											
13...	--	--	160	--	--	--	--	--	--	--	430
25...	--	--	170	--	--	--	--	--	--	--	680
AUG											
10...	2	2	170	10	3	0	<50	0	10	4	410
23...	--	--	280	--	--	--	--	--	--	--	500
SEP											
14...	--	--	170	--	--	--	--	--	--	--	870
27...	--	--	180	--	--	--	--	--	--	--	100

DATE	DIS- SOLVED IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	DIS- SOLVED LEAD (PB) (UG/L)	TOTAL MAN- GANESE (MN) (UG/L)	DIS- SOLVED MAN- GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	DIS- SOLVED MERCURY (HG) (UG/L)	TOTAL SELF- NIUM (SF) (UG/L)	DIS- SOLVED SELF- NIUM (SE) (UG/L)	TOTAL ZINC (ZN) (UG/L)	DIS- SOLVED ZINC (ZN) (UG/L)
OCT											
06...	--	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--	--
NOV											
10...	20	100	1	40	20	.0	.2	3	3	10	10
22...	--	--	--	--	--	--	--	--	--	--	--
DEC											
08...	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--
JAN											
12...	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--
FEB											
09...	0	<100	2	70	20	.1	.0	3	3	10	0
22...	--	--	--	--	--	--	--	--	--	--	--
MAR											
09...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
APR											
13...	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--
MAY											
04...	10	<100	0	40	0	.0	.0	2	2	10	10
23...	--	--	--	--	--	--	--	--	--	--	--
JUN											
08...	--	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--	--
JUL											
13...	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--
AUG											
10...	60	<100	13	50	8	.0	.0	2	3	30	0
23...	--	--	--	--	--	--	--	--	--	--	--
SEP											
14...	--	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--	--

&lt; Actual value is known to be less than value shown.

09429490 COLORADO RIVER ABOVE IMPERIAL DAM, AZ-CA--Continued

## PESTICIDE ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	TOTAL ENDRIN (UG/L)	TOTAL ETHION (UG/L)	TOTAL HEPTA- CHLOR (UG/L)	TOTAL HEPTA- CHLOR EPOXIDE (UG/L)	TOTAL LINDANE (UG/L)	TOTAL MALA- THION (UG/L)	TOTAL METHYL PARA- THION (UG/L)
OCT								
06...	0840	.00	.00	.00	.00	.00	.00	.00
NOV								
10...	0845	.00	.00	.00	.00	.00	.00	.00
DEC								
08...	0900	.00	.00	.00	.00	.00	.00	.00
JAN								
12...	0910	.00	.00	.00	.00	.00	.00	.00
FFB								
09...	0850	.00	.00	.00	.00	.00	.00	.00
MAR								
09...	0900	.00	.00	.00	.00	.00	.00	.00
APR								
13...	0830	.00	.00	.00	.00	.00	.00	.00
MAY								
04...	0835	.00	.00	.00	.00	.00	.00	.00
JUN								
08...	0830	.00	.00	.00	.00	.00	.00	.00
JUL								
13...	0850	.00	.00	.00	.00	.00	.00	.00
AUG								
10...	0915	.00	.00	.00	.00	.00	.00	.00
SEP								
14...	0900	.00	.00	.00	.00	.00	.00	.04

DATE	TIME	TOTAL ORGANIC CARBON (C) (MG/L)	TOTAL PCB (UG/L)	TOTAL ALDRIN (UG/L)	TOTAL CHLOR- DANE (UG/L)	TOTAL DDD (UG/L)	TOTAL DDE (UG/L)	TOTAL DDT (UG/L)	TOTAL DI- AZINON (UG/L)	TOTAL DI- ELDRIN (UG/L)
OCT										
06...	0840	4.0	.0	.00	.0	.00	.00	.00	.00	.00
19...	1000	3.1	--	--	--	--	--	--	--	--
NOV										
10...	0845	2.7	.0	.00	.0	.00	.00	.00	.00	.00
22...	1055	2.4	--	--	--	--	--	--	--	--
DEC										
04...	0900	2.0	.0	.00	.0	.00	.00	.00	.00	.00
20...	1115	3.1	--	--	--	--	--	--	--	--
JAN										
12...	0910	3.0	.0	.00	.0	.00	.00	.00	.00	.00
25...	1000	3.0	--	--	--	--	--	--	--	--
FEB										
09...	0850	3.2	.0	.00	.0	.00	.00	.00	.01	.00
22...	1015	3.4	--	--	--	--	--	--	--	--
MAR										
09...	0900	2.7	.0	.00	.0	.00	.00	.00	.02	.00
22...	1100	3.6	--	--	--	--	--	--	--	--
APR										
13...	0830	4.2	.0	.00	.0	.00	.00	.00	.01	.00
25...	1030	3.7	--	--	--	--	--	--	--	--
MAY										
04...	0835	3.7	.0	.00	.0	.00	.00	.00	.00	.00
23...	1315	3.7	--	--	--	--	--	--	--	--
JUN										
08...	0830	3.2	.0	.00	.0	.00	.00	.00	.00	.00
27...	1000	3.0	--	--	--	--	--	--	--	--
JUL										
13...	0850	2.9	.0	.00	.0	.00	.00	.00	.00	.00
25...	1025	3.0	--	--	--	--	--	--	--	--
AUG										
10...	0915	4.0	.0	.00	.0	.00	.00	.00	.00	.00
23...	1030	3.8	--	--	--	--	--	--	--	--
SEP										
14...	0900	3.1	.0	.00	.0	.00	.00	.00	.00	.00
27...	1100	2.2	--	--	--	--	--	--	--	--

## COLORADO RIVER MAIN STEM

09429490 COLORADO RIVER ABOVE IMPERIAL DAM, AZ-CA--Continued

## PESTICIDE ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TOTAL METHYL TRI- THION (UG/L)	TOTAL PARA- THION (UG/L)	TOTAL TOX- APHENE (UG/L)	TOTAL TRI- THION (UG/L)	TOTAL 2,4-D (UG/L)	TOTAL 2,4,5-T (UG/L)	TOTAL SILVEX (UG/L)
OCT 06...	.00	.00	0	.00	.00	.00	.03
NOV 10...	.00	.00	0	.00	.00	.00	.00
DEC 08...	.00	.00	0	.00	.00	.00	.00
JAN 12...	.00	.00	0	.00	.00	.00	.00
FEB 09...	.00	.00	0	.00	.00	.00	.00
MAR 09...	.00	.00	0	.00	.00	.00	.00
APR 13...	.00	.00	0	.00	.00	.00	.00
MAY 04...	.00	.00	0	.00	.00	.00	.00
JUN 08...	.00	.00	0	.00	.00	.00	.00
JUL 13...	.00	.00	0	.00	.00	.00	.00
AUG 10...	.00	.00	0	.00	.00	.00	.00
SEP 14...	.00	.01	0	.00	.00	.00	.00

## RADIOCHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	DIS- SOLVED GROSS ALPHA AS U-NAT. (UG/L)	SUS- PENDED GROSS ALPHA AS U-NAT. (UG/L)	DIS- SOLVED GROSS BETA AS CS-137 (PC/L)	SUS- PENDED GROSS BETA AS CS-137 (PC/L)	DIS- SOLVED GROSS BETA AS AS SR90 /Y90 (PC/L)	SUS- PENDED GROSS BETA AS AS SR90 /Y90 (PC/L)	DIS- SOLVED RA-226 (RADON METHOD) (PC/L)	DIS- SOLVED NATURAL URANIUM (U) (UG/L)	TRITIUM IN WATER MOLE- CULES (TU)	TRITIUM WATER MOLE- CULES COUNT ERROR (TU)
OCT 06...	--	--	--	--	--	--	--	--	--	135	7.0
NOV 03...	--	--	--	--	--	--	--	--	--	138	10.0
10...	0845	<14	1.3	5.4	2.2	4.3	1.9	.12	4.8	--	--
DEC 01...	--	--	--	--	--	--	--	--	--	138	11.0
JAN 05...	--	--	--	--	--	--	--	--	--	137	9.0
FEB 02...	--	--	--	--	--	--	--	--	--	135	7.0
MAR 02...	--	--	--	--	--	--	--	--	--	133	7.0
APR 13...	--	--	--	--	--	--	--	--	--	133	9.0
MAY 04...	--	--	--	--	--	--	--	--	--	129	9.0
04...	0835	13	.6	11	1.6	8.8	1.4	.13	4.3	--	--
JUN 02...	--	--	--	--	--	--	--	--	--	142	8.0
JUL 07...	--	--	--	--	--	--	--	--	--	129	7.0
SEP 14...	0900	--	--	--	--	--	--	--	--	121	8.0

&lt; Actual value is known to be less than value shown.



09429490 COLORADO RIVER ABOVE IMPERIAL DAM, AZ-CA--Continued

## WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	BIOMASS CHLORO- PHYLL RATIO PERI- PHYTON (UNITS)	PERI- PHYTON BIOMASS TOTAL DRY WEIGHT G/SQ M	PERI- PHYTON BIOMASS TOTAL ASH WEIGHT G/SQ M	TOTAL PHYTO- PLANK- TON (CELLS PER ML)	CHLORO- PHYLL A (UG/L)	CHLORO- PHYLL B (UG/L)
OCT 06...	0840	--	--	--	16000	48.5	45.0
NOV 10...	0845	--	3.85	1.31	5900	.000	.000
DEC 08...	0900	--	--	--	990	9.88	4.40
JAN 12...	0910	--	--	--	880	.000	.000
FEB 09...	0850	--	--	--	2700	5.39	3.77
APR 13...	0830	--	--	--	24000	--	--
MAY 04...	0835	6955	--	--	5800	--	--
JUN 08...	0830	--	--	--	16000	3.09	.853
JUL 13...	0850	--	--	--	6800	5.83	4.67
AUG 10...	0915	9440	--	--	3900	1.25	.555
SEP 14...	0900	--	--	--	11000	6.19	1.29

## COLORADO RIVER MAIN STEM

09429490 COLORADO RIVER ABOVE IMPERIAL DAM, AZ-CA--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1410	1460	1450	1410	1330	1260	1270	1300	1250	1250	1180	1250
2	1410	1440	1420	1450	1300	1270	1280	1240	1250	1240	1210	1230
3	1330	1430	1370	1480	1330	1290	1270	1240	1240	1200	1240	1250
4	1300	1370	1320	1530	1340	1320	1250	1240	1250	1210	1220	1250
5	1300	1370	1320	1560	1310	1320	1250	1240	1240	1200	1250	1290
6	1310	1400	1310	1510	1310	1320	1270	1260	1200	1230	1240	1260
7	1300	1420	1320	1440	1280	1320	1260	1290	1210	1230	1220	1260
8	1320	1390	1370	1460	1270	1270	1260	1290	1210	1230	1210	1280
9	1300	1360	1340	1500	1260	1260	1250	1280	1230	1230	1210	1330
10	1280	1320	1350	1530	1250	1300	1260	1270	1240	1200	1210	1320
11	1270	1330	1350	1540	1260	1340	1240	1270	1250	1200	1210	1330
12	1260	1370	1350	1580	1280	1320	1240	1300	1240	1190	1230	1120
13	1260	1440	1340	1550	1280	1260	1270	1330	1260	1180	1230	1260
14	1300	1460	1330	1440	1260	1240	1250	1370	1250	1190	1210	1320
15	1320	1470	1310	1460	1270	1240	1250	1320	1240	1190	1210	1360
16	1330	1530	1340	1520	1250	1250	1250	1370	1270	1190	1220	1370
17	1340	1540	1340	1500	1280	1250	1240	1360	1290	1170	1160	1380
18	1350	1540	1380	1420	1280	1250	1210	1360	1290	1170	1170	1410
19	1330	1600	1410	1380	1290	1270	1240	1390	1300	1180	1310	1350
20	1320	1530	1350	1370	1290	1260	1250	1370	1260	1200	1450	1310
21	1350	1550	1330	1360	1260	1240	1260	1350	1250	1180	1580	1310
22	1320	1540	1330	1380	1250	1250	1260	1290	1240	1210	1630	1320
23	1330	1490	1360	1390	1240	1250	1260	1260	1240	1220	1650	1340
24	1380	1480	1410	1360	1260	1250	1230	1270	1260	1180	1510	1360
25	1390	1520	1480	1360	1300	1270	1220	1280	1280	1170	1430	1380
26	1390	1530	1550	1310	1290	1280	1230	1270	1260	1180	1420	1350
27	1410	1510	1370	1300	1270	1260	1230	1300	1220	1180	1430	1320
28	1420	1530	1300	1300	1270	1250	1250	1360	1240	1180	1460	1280
29	1460	1500	1310	1330	---	1260	1270	1360	1230	1190	1330	1300
30	1450	1470	1390	1380	---	1230	1290	1280	1230	1190	1260	1330
31	1450	---	1410	1320	---	1270	---	1260	---	1160	1260	---

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
INSTANTANEOUS OBSERVATIONS AT 1230

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27.0	20.0	13.0	11.5	14.0	16.0	17.0	23.5	27.0	29.0	30.0	29.5
2	26.5	20.0	13.0	12.0	13.5	15.0	16.5	23.5	28.0	29.0	31.0	30.0
3	26.5	20.5	13.5	14.0	13.5	15.5	16.0	23.5	27.0	29.5	30.5	30.0
4	26.5	20.5	14.0	13.5	13.5	15.0	16.5	23.5	28.0	29.0	30.5	31.0
5	25.5	20.5	14.0	13.5	13.5	14.5	18.0	23.5	28.5	29.0	30.5	31.0
6	25.5	20.5	14.0	14.0	13.5	14.5	18.5	22.0	29.0	29.0	30.5	31.5
7	26.0	21.0	13.0	13.0	14.0	15.5	19.5	22.0	28.0	29.5	30.5	32.0
8	25.0	21.0	13.0	13.0	14.0	15.5	20.0	23.5	28.0	29.5	31.0	32.0
9	24.0	20.5	13.0	13.0	14.0	16.0	20.5	21.0	28.0	30.0	31.0	32.0
10	24.0	20.5	13.0	12.0	14.0	16.0	21.0	21.0	27.0	30.0	31.0	31.0
11	24.5	20.0	12.0	11.5	14.5	15.5	20.0	22.0	27.0	30.0	31.0	29.5
12	24.5	20.0	12.0	12.0	14.5	15.5	20.5	22.0	27.0	29.5	31.0	29.0
13	24.5	19.0	12.0	11.0	15.5	15.5	20.5	22.0	27.0	29.0	31.0	30.0
14	24.5	19.0	13.0	11.5	15.0	15.5	20.5	21.5	28.0	29.5	31.5	30.0
15	25.0	19.0	13.5	12.0	16.0	15.5	21.0	22.0	28.0	29.5	30.5	29.0
16	25.0	18.5	13.5	12.0	16.0	15.0	21.0	22.0	28.5	30.0	29.5	27.0
17	25.5	18.5	13.5	13.0	16.0	15.5	21.5	22.0	28.5	30.5	28.5	26.0
18	25.5	19.0	14.0	12.0	16.5	15.5	21.5	22.0	28.0	30.5	29.0	26.0
19	24.5	19.0	14.5	13.0	16.5	16.0	22.0	23.0	27.0	30.5	31.0	26.0
20	24.5	19.0	14.0	13.5	16.5	16.5	21.0	23.5	27.0	30.0	33.0	26.0
21	23.5	19.0	14.0	14.5	16.5	16.5	21.0	24.0	27.0	29.5	32.0	26.0
22	23.0	18.5	13.0	15.5	16.5	18.0	21.5	25.0	28.0	30.0	31.5	26.0
23	22.0	19.0	12.0	15.5	16.5	18.5	21.5	25.0	26.5	30.0	31.0	26.0
24	23.5	19.0	12.0	15.5	16.5	18.5	22.0	23.5	28.5	30.0	31.5	26.5
25	23.5	18.0	11.5	14.5	15.5	17.0	23.0	23.0	28.5	30.0	31.5	26.5
26	23.5	18.5	11.0	14.0	15.0	17.0	24.0	23.5	28.5	30.5	30.5	26.5
27	21.5	15.5	11.0	14.5	15.0	16.5	24.5	24.0	28.5	31.0	30.0	26.0
28	21.0	13.5	10.5	14.0	15.0	17.0	23.5	24.0	28.5	31.0	30.0	27.0
29	20.0	13.0	11.0	15.0	---	17.0	23.5	24.5	29.0	31.0	30.0	28.0
30	19.5	13.0	11.5	15.0	---	17.0	23.5	26.0	29.0	31.0	30.0	26.5
31	20.0	---	11.5	14.0	---	17.0	---	26.5	---	30.0	29.5	---

09429490 COLORADO RIVER ABOVE IMPERIAL DAM, AZ-CA--Continued

## QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

## PHYTOPLANKTON

DATE TIME	OCT 6,76 0840	NOV 10,76 0845	DEC 8,76 0900	JAN 12,77 0910	FEB 9,77 0815	FEB 9,77 0900
TOTAL CELLS/ML	16000	5900	990	880	280	2700
DIVERSITY: DIVISION	1.3	1.3	1.0	0.9	0.7	0.5
..CLASS	1.3	1.3	1.0	0.9	0.9	0.5
..ORDER	1.9	2.0	1.7	1.2	0.9	0.5
..FAMILY	2.0	2.3	2.6	1.4	2.9	0.7
....GENUS	2.3	2.4	2.9	1.4	3.3	0.7

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)												
..CHLOROPHYCEAE												
..CHLOROCOCCALES												
..ROTRYOCOCCACEAE												
..BOTRYOCOCCUS	--	-	--	-	--	-	--	-	--	-	--	-
..CHARACIACEAE												
..SCHROEDERIA	--	-	--	-	--	-	--	-	--	-	--	-
..COFLASTRACEAE												
..COELASTRUM	--	-	--	-	--	-	--	-	--	-	--	-
..MICRACTINIACEAE												
..MICRACTINIUM												
..DUCYSTACEAE												
..ANKISTRODES MUS	230	1	--	-	--	-	*	0	33	12	--	-
..CHODATELLA	--	-	--	-	--	-	--	-	--	-	--	-
..DICTYOSPHAERIUM	--	-	--	-	100	10	--	-	--	-	--	-
..KIRCHNEIPILLA	--	-	--	-	--	-	--	-	--	-	--	-
..DUCYSTIS	120	1	--	-	--	-	--	-	--	-	--	-
..TETRAEDRON	--	-	--	-	--	-	--	-	--	-	--	-
..SCENEDSMACEAE												
..ACTINASTRUM	--	-	--	-	--	-	--	-	--	-	--	-
..SCENEDESMUS	--	-	210	4	--	-	7	1	22	8	33	1
..VOLVOCALES												
..CHLAMYDOMONADACEAE												
..CARTERIA												
..CHLAMYDOMONAS	1100	7	110	2	--	-	27	3	--	-	--	-
..POLYBLEPHARIDACEAE												
..SPERMATOPHYTES	--	-	--	-	--	-	--	-	--	-	--	-
..VOLVOCAEAE												
..GONTUM	--	-	--	-	--	-	--	-	--	-	--	-
CHRYSOPHYTA												
..RACILLARIOPHYCEAE												
..CENTRALES												
..COSCINODISCACEAE												
..CYCLOTELLA	2000	12	2700#	45	200#	20	31	4	--	-	--	-
..MELASTRA	2100	13	210	4	100	10	--	-	--	-	--	-
..PENNIALES												
..ACHNANTHACEAE												
..COCCONEIS	--	-	*	0	100	10	--	-	11	4	19	1
..RHODOSPHAERIA	--	-	--	-	--	-	--	-	--	-	*	0
..CYMHELLACEAE												
..AMPHURA	--	-	--	-	--	-	--	-	--	-	*	0
..CYNRELLA	--	-	--	-	--	-	--	-	22	8	*	0
..EPITHEMIA	--	-	--	-	34	3	--	-	11	4	--	-
..DIATOMACEAE												
..DIATOMA	--	-	--	-	--	-	7	1	--	-	--	-
..FRAGILARIACEAE												
..ASTERTONELLA	--	-	--	-	--	-	--	-	--	-	--	-
..FRAGILARIA	--	-	--	-	--	-	--	-	11	4	80	3
..SYNFURA	--	-	--	-	--	-	--	-	--	-	--	-
..GOMPHONEMACEAE												
..GOMPHONEMA	--	-	--	-	--	-	7	1	11	4	--	-
..NAVICULACEAE												
..AMPHIPLEURA	--	-	--	-	--	-	--	-	11	4	--	-
..GYROSTOMA	--	-	--	-	--	-	--	-	--	-	--	-
..NAVICULA	230	1	20	7	140	14	38	4	65#	23	66	2
..PTINULARIA	--	-	--	-	--	-	--	-	11	4	--	-
..NITZSCHACEAE												
..NITZSCHIA	700	0	960#	16	200#	20	41	5	54#	19	47	2
..SURIRELLACEAE												
..CYMATOPELMA	--	-	--	-	--	-	--	-	11	4	--	-
..CHRYSOPHYCEAE												
..CHLAMYDOMONADALES												
..OCHROMONADACEAE												
..UTINOBRYON	--	-	--	-	--	-	--	-	--	-	--	-
..OCHROMONAS	--	-	--	-	--	-	--	-	11	4	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%

\* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2X

## COLORADO RIVER MAIN STEM

09429490 COLORADO RIVER ABOVE IMPERIAL DAM, AZ-CA--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

## PHYTOPLANKTON

DATE TIME	OCT 6,76 0840		NOV 10,76 0845		DEC 8,76 0900		JAN 12,77 0910		FEB 9,77 0815		FEB 9,77 0900	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CYANOPHYTA (BLUE-GREEN ALGAE)												
..CYANOPHYCEAE												
...CHROCOCCALFS												
...CHROCOCCACEAE												
...AGMENELLUM	*	0	--	-	--	-	--	-	--	-	--	-
...ANACYSTIS	1200	7	850	10	--	-	27	3	--	-	--	-
...HORMOGONIALES												
...NOSTOCACEAE												
...APHANIZOMENON	*	0	--	-	--	-	--	-	--	-	--	-
...CYLINDROSPERMUM	--	-	--	-	--	-	--	-	--	-	--	-
...OSCILLATORIACEAE												
...LYNGBYA	--	-	--	-	--	-	--	-	--	-	--	-
...OSCILLATORIA	8300#	52	--	-	--	-	690#	78	--	-	2400#	90
...SPIRULINA	--	-	--	-	--	-	--	-	--	-	--	-
...RIVULARIACEAE												
...RAPHIIDOPSIS	120	1	*	0	--	-	--	-	--	-	--	-
...CHROCOCCALES												
...CHROCOCCACEAE												
...GOMPHOSPHAERIA	--	-	--	-	--	-	--	-	--	-	--	-
EUGLENOPHYTA (EUGLENIDS)												
..CRYPTOPHYCEAF												
...CRYPTOMONIDALES												
...CRYPTOCHRYSIDACEAE												
...CHROMONAS	--	-	420	7	--	-	--	-	--	-	--	-
...CRYPTOMONODACEAE												
...CRYPTOMONAS	--	-	110	2	--	-	*	0	--	-	*	0
..EUGLENOPHYCEAE												
...EUGLENALES												
...EUGLENACEAF												
...EUGLENA	*	0	--	-	--	-	--	-	--	-	--	-
...TRACHELONAS	--	-	--	-	110	11	--	-	--	-	--	-
PYRRHOPHYTA (FIRE ALGAE)												
..DINOPHYCEAF												
...PERIDINIALES												
...PERIDINIACEAF												
...PERIDINTUM	--	-	--	-	--	-	--	-	--	-	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%

\* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

09429490 COLORADO RIVER ABOVE IMPERIAL DAM, AZ-CA--Continued

## QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE TIME	PHYTOPLANKTON											
	APR 13,77 0830	MAY 4,77 0835	JUN 8,77 0830	JUL 13,77 0850	AUG 10,77 0915	SEP 14,77 0900						
TOTAL CELLS/ML	24000	5800	16000	6800	3900	11000						
DIVERSITY: DIVISION	0.6	1.2	1.2	1.6	1.5	0.7						
..CLASS	0.6	1.2	1.2	1.6	1.5	0.7						
..ORDER	0.8	2.0	1.3	2.3	2.4	1.0						
..FAMILY	0.8	2.2	1.7	3.1	2.9	1.9						
..GENUS	0.9	2.4	1.8	3.5	2.9	1.9						
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)												
..CHLOROPHYCEAE												
..CHLOROCOCCALES												
..CHLOROCOCCACEAE												
..CHLOROCOCCUS	--	-	--	-	1800	12	--	-	--	-	--	-
..CHARACTACEAE												
..SCHROEDERIA	--	-	--	-	--	-	--	-	--	-	*	0
..COELASTRACEAE												
..COELASTRUM	--	-	--	-	460	3	950	14	--	-	--	-
..MICRACITINACEAE												
..MICRACITINUM	--	-	--	-	*	0	--	-	--	-	--	-
..OOCYSTACEAE												
..ANKISTRODESMUS	--	-	*	0	*	0	37	1	56	1	99	1
..CHONATELLA	--	-	*	0	--	-	--	-	--	-	--	-
..DICTYOSPHAERIUM	--	-	--	-	--	-	240	3	--	-	--	-
..KIRCHNERIELLA	--	-	--	-	--	-	91	1	--	-	--	-
..OOCYSTIS	--	-	--	-	*	0	--	-	56	1	--	-
..TETRAEDRUM	--	-	--	-	*	0	--	-	--	-	--	-
..SCENEDESMACEAE												
..ACTINASTRUM	--	-	--	-	*	0	--	-	--	-	--	-
..SCENEDESMUS	*	0	280	5	840	5	1200#	18	560	14	590	5
..VOLVOCALES												
..CHLAMYDOMONADACEAE												
..CARTERIA	--	-	70	1	*	0	--	-	--	-	--	-
..CHLAMYDOMONAS	*	0	--	-	*	0	160	2	69	2	180	2
..POLYBLEPHARIDACEAE												
..SPERMATIZOOPSTS	--	-	--	-	*	0	--	-	--	-	--	-
..VOLVOCAEAE												
..GONTUM	--	-	--	-	--	-	880	13	--	-	--	-
CHRYSOPHYTA												
..BACILLARIOPHYCEAE												
..CENTRALES												
..COSCINOIDSCACEAE												
..CYCLOTELLA	--	-	510	9	130	1	--	-	220	6	350	3
..MELONSTRA	1100	4	460	8	--	-	--	-	--	-	--	-
..PENNIALES												
..ACHNANTHACEAE												
..COCCONEIS	*	0	--	-	*	0	--	-	*	0	*	0
..RHODOSPHAERIA	--	-	--	-	--	-	--	-	*	0	--	-
..CYMBELLACEAE												
..AMPHURA	--	-	--	-	--	-	--	-	--	-	--	-
..CYMBELLA	*	0	*	0	--	-	--	-	28	1	--	-
..EPITHEMIA	--	-	--	-	--	-	--	-	--	-	--	-
..DIATOMACEAE												
..DIATOMA	*	0	--	-	*	0	--	-	--	-	--	-
..FRAGILARIACEAE												
..ASTERIONELLA	360	2	56	1	--	-	--	-	--	-	--	-
..FRAGILARIA	1400	6	420	7	170	1	55	1	--	-	--	-
..SYNDORA	--	-	--	-	*	0	550	8	500	13	130	1
..GOMPHONEMACEAE												
..GOMPHONEMA	--	-	--	-	--	-	110	2	--	-	--	-
..NAVICULACEAE												
..AMPHIPLEURA	--	-	--	-	--	-	--	-	--	-	--	-
..GYROSTOMA	--	-	--	-	--	-	*	0	--	-	--	-
..NAVICULA	120	1	56	1	140	1	260	4	69	2	*	0
..PTINULARIA	--	-	--	-	*	0	--	-	--	-	--	-
..NITZSCHACEAE												
..NITZSCHIA	*	0	110	2	610	4	--	-	69	2	99	1
..SURIRELLACEAE												
..CYMATOPLEURA	--	-	--	-	--	-	--	-	--	-	--	-
..CHRYSOPHYCEAE												
..CHRYSOMONADALS												
..OCHROMONADACEAE												
..UTINOBRYON	120	1	--	-	*	0	--	-	--	-	--	-
..OCHROMONAS	--	-	--	-	--	-	--	-	--	-	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%

\* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

09429490 COLORADO RIVER ABOVE IMPERIAL DAM, AZ-CA--Continued

## QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

## PHYTOPLANKTON

DATE TIME	APR 13, 77 0830		MAY 4, 77 0835		JUN 8, 77 0830		JUL 13, 77 0850		AUG 10, 77 0915		SEP 14, 77 0900	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CYANOPHYTA (BLUE-GREEN ALGAE)												
..CYANOPHYCEAE												
...CHROCOCCOCEAE												
...CHROCOCCOCEAE												
...AGMENELLUM	--	-	--	-	--	-	290	4	--	-	--	-
...ANACYSTIS	--	-	630	11	11000#	70	--	-	940#	24	260	2
...HORMOGONALES												
...NUSTOCACEAE												
...APHANIZOMENON	--	-	--	-	--	-	--	-	--	-	--	-
...CYLINDROSPERMUM	--	-	--	-	--	-	--	-	--	-	5300#	48
...OSCILLATORACEAE												
...LYNCEA	--	-	--	-	--	-	370	5	--	-	--	-
...OSCILLATORIA	21000#	86	3100#	53	--	-	550	8	1100#	28	3800#	35
...SPIRULINA	--	-	--	-	--	-	--	-	*	0	--	-
...RIVULARIACEAE												
...RAPHIDIOPSIS	--	-	--	-	--	-	--	-	140	4	--	-
...CHROCOCCOCEAE												
...CHROCOCCOCEAE												
...GOMPHOSPHAERIA	--	-	--	-	--	-	840	12	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)												
..CRYPTOPHYCEAE												
...CRYPTOMONIDAE												
...CRYPTOCHRYSIDACEAE												
...CHROMONAS	--	-	42	1	*	0	--	-	42	1	--	-
...CRYPTOMONADACEAE												
...CRYPTOMONAS	--	-	--	-	*	0	240	3	--	-	--	-
..EUGLENOPHYCEAE												
...EUGLENALES												
...EUGLENACEAE												
...EUGLENA	--	-	--	-	--	-	--	-	--	-	--	-
...TRACHLOMONAS	--	-	--	-	--	-	--	-	28	1	--	-
PYRRHOPHYTA (FIRE ALGAE)												
..DINOPHYCEAE												
...PERIDINIALES												
...PERIDINIACEAE												
...PERIDINIUM	--	-	--	-	*	0	--	-	--	-	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%

\* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

LOCATION.--Lat 32°48'44", long 114°30'51", in SE¼ sec.35, T.15 S., R.24 E., San Bernardino meridian, in California, Imperial County, Hydrologic Unit 15030107, on right bank 1.4 mi (2.3 km) downstream from Laguna Dam, 2.8 mi (4.5 km) northeast of Bard, Calif., and 10 mi (16 km) northeast of Yuma, Ariz.

WATER-DISCHARGE RECORDS

REMARKS.--Records good. Natural flow of Colorado River at this point is affected by transmountain diversions, storage reservoirs, power developments, ground-water withdrawals, diversions for irrigation, municipal and industrial uses, and return flows from irrigated areas. Flow past station consists mainly of water released through Imperial Dam, sludge from the desilting basins at Imperial Dam, seepage through Imperial Dam, and seepage from the All-American Canal and the Gila Gravity Main Canal.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,030 ft<sup>3</sup>/s (142 m<sup>3</sup>/s) Aug. 18, gage height, 12.88 ft (3.926 m); minimum daily, 215 ft<sup>3</sup>/s (6.09 m<sup>3</sup>/s) Feb. 25.

DAY	UCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	412	682	228	292	698	228	354	598	846	332	354	392
2	376	676	228	290	695	228	351	492	828	496	339	762
3	360	658	233	284	673	230	349	370	720	331	347	877
4	343	527	235	455	486	311	349	320	623	333	326	862
5	324	507	235	704	732	547	346	264	600	334	316	862
6	357	495	235	710	775	512	343	418	597	355	301	872
7	362	452	238	750	788	415	545	728	641	365	323	837
8	354	501	238	759	759	284	658	785	681	350	327	777
9	338	489	238	753	803	277	478	961	676	313	328	777
10	338	495	235	756	813	263	384	1030	678	315	369	734
11	287	507	238	753	806	357	371	1020	563	310	468	715
12	292	536	245	753	518	379	362	-992	373	310	532	1720
13	290	545	238	753	298	371	357	962	365	445	516	1650
14	284	847	235	750	290	371	360	972	320	632	357	940
15	279	772	240	750	284	376	338	1390	310	582	560	802
16	269	661	240	747	271	365	332	1130	287	422	2280	753
17	258	640	245	741	248	362	335	900	279	372	4480	721
18	253	586	261	698	248	322	335	889	405	368	5000	754
19	269	368	261	692	248	324	354	716	578	354	4680	775
20	245	287	258	670	248	327	360	399	407	337	2430	796
21	306	287	258	634	251	338	458	325	309	345	1060	805
22	640	287	258	722	269	354	676	306	292	332	480	779
23	791	287	258	713	282	341	501	293	266	313	385	782
24	738	287	371	704	235	306	371	848	257	301	350	784
25	701	282	574	698	215	311	360	831	359	301	320	785
26	704	277	530	698	217	327	343	827	388	306	300	772
27	710	269	351	692	220	349	357	860	378	300	280	757
28	725	238	233	701	222	349	343	848	342	568	260	874
29	763	230	243	719	---	349	330	804	335	647	240	891
30	828	230	263	704	---	349	415	850	335	418	240	562
31	759	---	295	698	---	349	---	851	---	366	230	---
TOTAL	13955	13905	8438	20743	12592	10571	11815	22979	14038	11853	28778	25169
MEAN	450	464	272	669	450	341	394	741	468	382	928	839
MAX	828	847	574	759	813	547	676	1390	846	647	5000	1720
MIN	245	230	228	284	215	228	330	264	257	300	230	392
AC-FT	27680	27580	16740	41140	24980	20970	23440	45580	27840	23510	57080	49920
CAL YR 1976	TOTAL	182052	MEAN	497	MAX	3300	MIN	156	AC-FT	361100		
WTR YR 1977	TOTAL											

## COLORADO RIVER MAIN STEM

09429600 COLORADO RIVER BELOW LAGUNA DAM, AZ-CA--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--July 1972 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1976 to September 1977.

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (CA, MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DTS- SOLVED MAG- NE- SIUM (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO
OCT											
04...	0135	340	1500	8.1	25.5	380	218	102	31	175	3.9
11...	0315	262	1500	8.0	24.5	380	221	101	31	175	3.9
18...	0105	218	1430	8.1	24.5	370	216	100	29	165	3.7
25...	0135	725	1380	8.1	23.5	365	214	97	30	155	3.5
NOV											
01...	0340	652	1490	8.1	19.5	380	220	102	31	175	3.9
08...	0115	508	1470	8.2	20.0	375	214	101	30	170	3.8
15...	0130	1170	1470	8.2	19.0	380	222	100	32	170	3.8
22...	0340	300	1720	8.2	19.0	420	241	113	34	210	4.4
29...	0135	268	1620	8.1	13.0	410	236	110	33	195	4.2
DEC											
06...	0120	252	1490	8.0	14.5	380	220	105	29	175	3.9
13...	0315	262	1460	8.0	15.5	375	218	100	31	170	3.8
20...	0135	270	1430	8.1	14.5	370	214	97	31	165	3.7
27...	0125	484	1790	8.0	14.0	415	241	117	30	230	4.9
JAN											
03...	0330	302	1510	8.0	18.0	390	224	106	31	175	3.8
10...	0120	823	1480	8.1	--	385	226	102	32	170	3.8
17...	0120	816	1520	8.1	15.0	395	232	106	32	175	3.8
24...	0330	728	1440	8.1	18.5	375	218	106	27	165	3.7
31...	0115	760	1430	8.1	15.0	375	219	98	32	165	3.7
FEB											
07...	0135	918	1370	8.1	15.0	370	221	98	31	150	3.4
14...	0045	302	1390	8.1	19.5	370	218	98	31	155	3.5
21...	0115	262	1410	8.1	18.5	370	214	102	28	160	3.6
28...	0130	228	1390	8.0	17.0	370	216	105	26	155	3.5
MAR											
07...	0130	517	1660	8.0	16.5	395	231	107	31	205	4.5
14...	0100	385	1420	8.1	16.5	375	221	98	32	160	3.6
21...	0115	334	1340	8.1	18.0	365	212	97	30	145	3.3
28...	0030	358	1330	8.1	17.0	365	212	98	29	145	3.3
APR											
04...	0110	343	1350	8.3	18.5	365	211	98	29	150	3.4
11...	0125	382	1410	8.2	19.0	380	224	102	31	155	3.4
18...	0110	325	1330	8.2	21.0	365	212	95	31	145	3.3
25...	0645	298	1420	8.1	18.5	380	226	102	31	160	3.6
MAY											
02...	0125	557	1400	8.4	24.0	375	221	95	34	155	3.5
09...	0130	520	1320	8.4	--	365	212	98	32	145	3.3
16...	0145	1840	1290	8.3	22.0	365	214	92	33	135	3.1
23...	0135	280	1520	8.3	13.5	395	228	102	34	175	3.8
30...	0105	828	1360	8.2	21.0	375	218	96	33	150	3.4
JUN											
06...	0145	599	1350	8.3	26.5	370	219	98	31	145	3.3
13...	0120	708	1310	8.3	26.0	365	214	94	32	140	3.2
20...	0050	524	1400	8.1	25.5	375	221	98	32	155	3.5
27...	0140	376	1350	8.1	28.0	370	219	99	30	145	3.3
JUL											
04...	0110	327	1340	8.1	28.0	370	219	95	32	145	3.3
11...	0105	529	1320	7.9	28.5	365	212	93	32	145	3.3
18...	0235	602	1330	7.9	30.0	365	214	93	32	145	3.3
25...	0050	240	1340	7.9	30.0	365	211	93	32	145	3.3
AUG											
01...	0330	384	1340	7.9	29.0	365	212	94	32	145	3.3
08...	0310	346	1330	7.9	30.5	360	211	92	32	145	3.3
15...	0220	593	1330	7.8	30.0	360	216	98	31	145	3.3
22...	0115	123	1490	7.8	30.0	395	224	102	34	170	3.7
29...	0130	332	1550	7.9	29.5	395	226	108	31	180	3.9
SEP											
05...	0140	857	1280	7.9	30.0	360	219	90	33	135	3.1
12...	0110	628	1300	7.9	28.5	350	206	90	31	145	3.4
19...	0145	700	1390	8.0	26.0	375	218	98	32	155	3.5
26...	0150	738	1390	8.0	25.0	375	218	99	31	155	3.5



09429600 COLORADO RIVER BELOW LAGUNA DAM, AZ-CA--Continued

COOPERATION.--Daily specific conductance record furnished by Bureau of Reclamation.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 1,870 micromhos Nov. 19; minimum daily, 1,090 micromhos Sept. 13.

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SiO2) (MG/L)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DIS- SOLVED SOLIDS (TONS PER AC-FT)	DIS- SOLVED NITRATE (N) (MG/L)
OCT											
04...	7.2	198	0	360	165	.6	12	948	952	1.29	.27
11...	6.4	194	0	360	165	.6	13	952	949	1.29	.25
18...	6.2	188	0	350	152	.5	10	904	906	1.23	.14
25...	6.0	184	0	345	138	.5	9.0	868	872	1.18	.11
NOV											
01...	5.9	196	0	370	155	.6	10	944	948	1.28	.25
08...	6.0	196	0	360	155	.5	11	928	931	1.26	.16
15...	5.9	192	0	360	155	.4	11	928	930	1.26	.20
22...	5.8	218	0	395	210	.6	13	1100	1090	1.50	.14
29...	6.3	212	0	385	185	.6	11	1030	1030	1.40	.23
DEC											
06...	6.0	196	0	360	160	.5	10	986	944	1.34	.23
13...	6.0	192	0	355	155	.6	11	936	925	1.27	.23
20...	6.0	190	0	355	150	.5	10	912	909	1.24	.16
27...	6.4	212	0	400	232	.7	12	1130	1130	1.54	.25
JAN											
03...	5.6	202	0	360	168	.6	12	956	959	1.30	.20
10...	5.8	194	0	365	155	.5	11	944	938	1.28	.23
17...	6.0	198	0	375	162	.5	11	972	966	1.32	.16
24...	5.8	192	0	355	150	.5	8.7	912	914	1.24	.18
31...	5.5	190	0	355	150	.4	9.2	908	910	1.23	.20
FEB											
07...	5.4	182	0	345	138	.5	8.8	864	868	1.18	.20
14...	6.0	186	0	350	142	.5	8.5	886	884	1.20	.20
21...	6.0	190	0	350	145	.4	9.8	898	896	1.22	.11
28...	5.8	188	0	350	140	.5	9.8	882	886	1.20	.14
MAR											
07...	6.2	200	0	370	208	.5	10	1040	1040	1.41	.16
14...	5.6	188	0	350	148	.5	9.2	912	897	1.24	.20
21...	5.6	186	0	340	130	.4	8.8	872	850	1.19	.16
28...	5.6	186	0	335	128	.5	9.2	844	843	1.15	.09
APR											
04...	5.6	188	0	340	132	.6	9.0	854	858	1.16	.09
11...	5.6	190	0	345	148	.5	9.2	880	891	1.20	.09
18...	5.6	186	0	335	128	.5	9.0	844	842	1.15	.09
25...	5.5	188	0	350	150	.5	9.5	904	902	1.23	.11
MAY											
02...	5.8	188	2	345	145	.6	7.5	882	883	1.20	.07
09...	5.6	186	2	335	125	.5	6.8	846	838	1.15	.11
16...	5.2	184	0	330	120	.6	6.3	826	814	1.12	.14
23...	5.5	204	0	360	172	.7	10	962	960	1.31	.11
30...	5.6	192	0	340	135	.6	8.0	876	864	1.19	.09
JUN											
06...	5.4	184	0	340	135	.5	9.0	854	855	1.16	.07
13...	5.6	184	0	330	125	.5	8.2	828	827	1.13	.11
20...	5.7	188	0	345	145	.5	8.5	878	883	1.19	.07
27...	5.4	184	0	340	135	.5	8.2	852	854	1.16	.07
JUL											
04...	5.4	184	0	335	132	.5	9.0	844	845	1.15	.11
11...	5.6	186	0	335	128	.5	8.6	842	840	1.15	.05
18...	5.3	184	0	335	130	.6	8.9	856	841	1.16	.09
25...	5.9	188	0	335	132	.5	9.2	850	846	1.16	.07
AUG											
01...	5.4	186	0	335	132	.5	9.2	842	845	1.15	.07
08...	5.5	182	0	335	130	.5	10	836	840	1.14	.07
15...	5.6	176	0	335	130	.6	9.5	838	838	1.14	.09
22...	6.0	208	0	360	158	.6	12	954	946	1.30	.20
29...	5.8	206	0	365	175	.6	12	980	979	1.33	.09
SEP											
05...	5.2	172	0	335	120	.4	8.8	834	813	1.13	.11
12...	5.8	176	0	330	128	.6	9.2	822	827	1.12	.18
19...	5.4	192	0	345	140	.5	10	886	882	1.20	.14
26...	5.5	192	0	345	140	.5	9.8	888	881	1.21	.09

## COLORADO RIVER MAIN STEM

09429600 COLORADO RIVER BELOW LAGUNA DAM, AZ-CA--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1400	1480	1640	1480	1380	1390	1340	1310	1320	1320	1350	1440
2	1450	1480	1620	1480	1370	1400	1340	1410	1300	1320	1340	1310
3	1480	1480	1590	1500	1350	1400	1340	1430	1310	1320	1300	1280
4	1510	1470	1550	1560	1820	1390	1350	1420	1360	1330	1310	1280
5	1520	1490	1520	1540	1430	1360	1360	1380	1350	1330	1330	1300
6	1520	1510	1490	1580	1360	1450	1360	1350	1360	1300	1350	1280
7	1510	1470	1460	1550	1370	1650	1320	1310	1310	1280	1340	1280
8	1510	1470	1460	1470	1320	1530	1370	1300	1320	1290	1310	1270
9	1540	1460	1460	1480	1310	1530	1540	1320	1310	1330	1330	1300
10	1540	1430	1440	1490	1290	1500	1340	1310	1330	1330	1240	1350
11	1490	1400	1470	1520	1260	1510	1410	1300	1340	1330	1240	1310
12	1490	1370	1460	1540	1300	1440	1410	1280	1410	1330	1240	1310
13	1380	1380	1450	1560	1410	1440	1430	1290	1310	1320	1340	1090
14	1380	1420	1450	1600	1390	1420	1430	1290	1350	1270	1270	1240
15	1380	1460	1440	1500	1410	1390	1420	1370	1370	1300	1220	1290
16	1380	1470	1420	1480	1400	1380	1340	1300	1390	1380	1200	1350
17	1430	1510	1400	1520	1420	1390	1340	1350	1400	1380	1180	1380
18	1430	1540	1400	1630	1390	1400	1330	1360	1400	1340	1200	1400
19	1440	1870	1420	1560	1410	1320	1320	1370	1340	1330	1180	1390
20	1430	1750	1420	1480	1410	1320	1310	1470	1400	1300	1330	1380
21	1430	1750	1470	1660	1410	1330	1320	1550	1450	1280	1410	1300
22	1360	1730	1470	1410	1410	1320	1290	1550	1450	1300	1500	1310
23	1350	1720	1450	1420	1390	1320	1390	1530	1450	1300	1570	1330
24	1350	1700	1430	1430	1380	1320	1410	1490	1430	1340	1610	1340
25	1390	1680	1380	1420	1390	1340	1430	1310	1420	1340	1630	1380
26	1410	1610	1510	1420	1390	1340	1420	1310	1380	1320	1620	1400
27	1450	1600	1770	1390	1400	1340	1320	1290	1370	1310	1560	1490
28	1520	1630	1590	1370	1390	1330	1320	1290	1340	1310	1570	1350
29	1520	1630	1530	1370	---	1360	1330	1340	1340	1290	1550	1310
30	1520	1630	1480	1370	---	1340	1360	1370	1340	1340	1560	1300
31	1500	---	1460	1430	---	1340	---	1320	---	1350	1480	---

LOCATION.--Lat 32°43'07", long 114°43'05", in NE¼ sec.21, T.8 S., R.24 W., Gila and Salt River meridian, in Arizona, Yuma County, Hydrologic Unit 15030108, on left bank at northerly international boundary, 0.5 mi (0.8 km) east of Andrade, 1.1 mi (1.8 km) upstream from Morelos Dam, 1.1 mi (1.8 km) downstream from Rockwood Gate, and 6.4 mi (10.3 km) downstream from gaging station on Colorado River below Yuma Main Canal wasteway.

WATER-DISCHARGE RECORDS

GAGE.--Water-stage recorder. Datum of gage is at mean sea level. Supplementary water-stage recorder 1,680 ft (510 m) upstream at same datum.

COOPERATION.--Records furnished by International Boundary and Water Commission, U.S. Section (discharge figures rounded in accordance with Geological Survey standard practice).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 12,000 ft<sup>3</sup>/s (340 m<sup>3</sup>/s) Aug. 18, elevation, 114.34 ft (34.851 m); minimum discharge, 752 ft<sup>3</sup>/s (21.3 m<sup>3</sup>/s) Oct. 7; minimum elevation, 102.33 ft (31.190 m) Oct. 8.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1050	939	1480	2560	1380	2380	3360	2610	1340	2310	2850	1580
2	995	915	1530	2310	1370	2380	3510	2290	1340	2300	2880	1420
3	965	945	1510	2060	1350	2380	3480	2030	1340	2470	2770	1460
4	797	904	1500	1790	1410	2470	3650	1820	1430	2460	2760	1420
5	797	915	1470	1460	1440	2490	3650	1670	1420	2460	2680	1440
6	825	955	1720	1490	1400	2490	3740	1610	1450	2540	2660	1450
7	799	945	1750	1460	1470	2500	3750	1620	1560	2540	2630	1780
8	797	965	1910	1410	1490	2620	3750	1520	1580	2540	2600	1360
9	806	935	2090	1390	1560	2620	3830	1520	1580	2520	2590	1390
10	835	955	2110	1210	1520	2620	3810	1450	1660	2550	2580	1360
11	1020	945	2120	1130	1580	2630	3890	1440	1660	2550	2590	1480
12	1020	955	2270	1130	1580	2620	3890	1440	1650	2620	2550	1740
13	985	935	2470	1170	1750	2680	3890	1440	1850	2640	2560	2110
14	1030	975	2480	1160	1800	2770	3890	1460	1870	2630	2540	1740
15	1040	1170	2480	1130	1840	2770	3870	1470	1850	2670	2760	1250
16	1110	1020	2480	1120	1890	2810	3890	1660	1920	2680	9510	1300
17	1110	995	2630	1110	1880	2800	3840	1350	1920	2680	9530	1340
18	1060	1040	2620	1100	1970	2780	3860	1400	1970	2670	11300	1330
19	1120	1090	2610	1120	1980	2780	3870	1310	1980	2690	7910	1340
20	1110	1200	2700	1110	1940	2860	3870	1340	2030	2710	5410	1340
21	1110	1200	2910	1110	2160	2860	3890	1380	2060	2710	3470	1320
22	1130	1420	2890	1200	2140	2860	3760	1380	2070	2680	2200	1330
23	1110	1370	2800	1170	2150	3010	3720	1390	2110	2680	2150	1320
24	1110	1470	2800	1180	2140	3020	3680	1400	2160	2690	2150	1320
25	1090	1620	2800	1190	2160	3030	3660	1380	2120	2680	2200	1330
26	1100	1600	2780	1170	2170	3050	3560	1360	2150	2720	2230	1300
27	1100	1720	2800	1230	2170	3100	3480	1350	2150	2750	2240	1330
28	1110	1730	2810	1250	2130	3120	3320	1340	2200	2750	2230	1350
29	1080	1710	2840	1220	---	3130	3110	1340	2230	2730	2250	1320
30	1070	1790	2820	1220	---	3130	2870	1360	2160	2710	2110	1260
31	1170	---	2850	1300	---	3220	---	1390	---	2720	1870	---
TOTAL	31451	35328	73030	41660	49820	85980	110340	47520	54810	81050	109760	42410
MEAN	1015	1118	2356	1344	1779	2774	3678	1533	1827	2615	3541	1414
MAX	1170	1790	2910	2560	2170	3220	3890	2610	2230	2750	11300	2110
MIN	79											

## COLORADO RIVER MAIN STEM

09522000 COLORADO RIVER AT NORTHERLY INTERNATIONAL BOUNDARY,  
ABOVE MORELOS DAM, NEAR ANDRADE, CA--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1968 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1969 to current year.

REMARKS.--Unpublished chemical analyses (continuing record) for water years 1961-68 available from district office in Tucson, Ariz.

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (NTU)	DTS-SOLVED OXYGEN (MG/L)	CHEMICAL OXYGEN DEMAND (HIGH LEVFL) (MG/L)	FECAL COLIFORM (COL./100 ML)	FFCAL STREPTOCOCCI (COL./100 ML)	HARDNESS (CA, MG)
OCT											
04...	0845	800	1820	8.1	--	27	--	--	--	--	450
05...	0830	797	1820	7.9	22.5	--	6.6	12	460	--	--
12...	0830	1050	1630	8.1	--	30	--	--	--	--	415
18...	0830	1050	1660	8.1	--	13	--	--	--	--	425
19...	0830	1120	--	--	--	--	--	18	--	--	--
26...	0830	1120	1670	8.1	--	10	--	--	--	--	425
NOV											
01...	0830	950	1740	8.1	22.0	10	--	--	--	--	435
08...	0830	943	1770	8.1	19.0	15	--	--	--	--	440
09...	0855	935	1770	7.9	19.0	--	7.9	16	3900	--	--
09...	0930	935	--	--	19.0	--	--	--	--	--	--
15...	0830	1310	1580	8.1	18.0	15	--	--	--	--	410
22...	0835	1460	1760	8.2	17.0	20	--	26	--	--	440
29...	0835	1750	1730	8.1	14.0	4.0	--	--	--	--	430
DEC											
06...	0700	1730	1520	8.1	--	5.0	--	--	--	--	400
07...	0730	1720	1600	7.7	13.0	--	8.9	26	813	97	--
13...	0830	2490	1520	8.1	--	10	--	--	--	--	400
20...	0830	2640	1540	8.1	--	10	--	--	--	--	400
20...	0840	2640	--	--	12.5	--	--	16	--	--	--
27...	0830	2800	1710	8.1	9.5	3.0	--	--	--	--	430
JAN											
03...	0840	2020	1630	8.0	14.0	4.0	--	--	--	--	410
10...	0830	1220	1670	8.0	--	5.0	--	--	--	--	425
11...	0840	1130	1750	7.9	11.0	--	8.8	29	70	150	--
17...	0830	1100	1710	8.1	12.0	7.0	--	--	--	--	430
24...	0830	1140	1670	8.1	--	7.0	--	--	--	--	425
25...	0900	1220	--	--	15.0	--	--	16	--	--	--
31...	0830	1270	1650	8.0	13.5	9.0	--	--	--	--	415
FEB											
07...	0840	1490	1600	8.0	13.5	7.0	--	--	--	--	400
08...	0840	1470	1600	8.0	13.0	--	9.3	45	67	180	--
08...	0850	1470	--	--	13.0	--	--	--	--	--	--
14...	0830	1800	1620	8.1	15.5	15	--	--	--	--	415
22...	0840	2190	--	--	16.5	--	--	3	--	--	--
22...	0845	2190	1570	8.1	17.0	8.0	--	--	--	--	405
28...	0830	2200	1470	8.1	--	8.0	--	--	--	--	390
MAR											
07...	0845	2490	1580	8.1	15.0	9.0	--	--	--	--	405
08...	0900	2620	1450	8.2	15.0	--	9.0	23	70	87	--
14...	0845	2830	1460	8.1	15.0	30	--	--	--	--	390
21...	0840	2850	1440	8.1	18.5	10	--	--	--	--	385
22...	0830	2860	--	--	--	--	--	36	--	--	--
28...	0830	3130	1420	8.2	15.5	30	--	--	--	--	385
APR											
04...	0830	3690	1420	8.1	16.5	30	--	--	--	--	385
11...	0845	3890	1400	8.2	19.5	8.0	--	--	--	--	380
12...	0845	3870	1400	7.9	19.0	--	7.8	28	77	100	--
18...	0830	3840	1390	8.3	22.0	25	--	--	--	--	380
25...	0840	3680	1380	8.3	21.5	10	--	16	--	--	380
MAY											
02...	0830	2210	1470	8.3	23.5	20	--	--	--	--	390
03...	0920	2070	1470	7.8	22.0	--	7.4	44	15	54	--
03...	0925	2070	--	--	22.0	--	--	--	--	--	--
09...	0830	1540	1520	8.3	--	4.0	--	--	--	--	400
16...	0830	1760	1510	8.2	20.5	8.0	--	--	--	--	405
23...	1050	1390	1630	8.2	23.5	20	--	3	--	--	415
31...	0810	1390	1550	8.1	24.0	20	--	--	--	--	405

09522000 COLORADO RIVER AT NORTHERLY INTERNATIONAL BOUNDARY,  
ABOVE MORELOS DAM, NEAR ANDRADE, CA--Continued

COOPERATION.--Quarterly pesticide analysis performed by Environmental Protection Agency.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 2,230 micromhos Dec. 9, 1969; minimum, 1,020 micromhos Sept. 27, 1976.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 1,860 micromhos Nov. 20; minimum, 1,220 micromhos Aug. 17.

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	NON-CAR-BONATE HARD-NESS (MG/L)	TOTAL CAL-CIUM (CA) (MG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	TOTAL MAG-NE-SIUM (MG)	DIS-SOLVED MAG-NE-SIUM (MG)	TOTAL SODIUM (NA) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	SODIUM AD-SORP-TION RATIO	TOTAL PO-TAS-SIUM (K) (MG/L)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)
OCT											
04...	256	--	121	--	36	--	220	4.5	--	6.6	236
05...	--	--	--	--	--	--	--	--	--	--	--
12...	241	--	113	--	32	--	190	4.1	--	6.4	212
18...	248	--	114	--	34	--	195	4.1	--	6.2	216
19...	--	--	--	--	--	--	--	--	--	--	--
26...	250	--	114	--	34	--	195	4.1	--	6.2	214
NOV											
01...	253	--	118	--	34	--	210	4.4	--	5.9	222
08...	253	--	118	--	35	--	215	4.5	--	6.4	228
09...	--	110	--	38	--	210	--	--	5.1	5.9	--
09...	--	--	--	--	--	--	--	--	--	--	--
15...	242	--	108	--	34	--	185	4.0	--	6.2	204
22...	256	--	118	--	35	--	215	4.5	--	5.8	224
29...	250	--	114	--	35	--	210	4.4	--	6.3	220
DEC											
06...	238	--	110	--	31	--	175	3.8	--	6.0	198
07...	--	--	--	--	--	--	--	--	--	--	--
13...	238	--	107	--	32	--	175	3.8	--	6.0	198
20...	230	--	111	--	30	--	180	3.9	--	6.1	208
20...	--	--	--	--	--	--	--	--	--	--	--
27...	253	--	118	--	33	--	205	4.3	--	6.3	216
JAN											
03...	240	--	112	--	32	--	190	4.1	--	5.8	208
10...	251	--	114	--	34	--	195	4.1	--	5.8	212
11...	--	--	--	--	--	--	--	--	--	--	--
17...	253	--	116	--	34	--	205	4.3	--	6.2	216
24...	251	--	111	--	36	--	195	4.1	--	6.2	212
25...	--	--	--	--	--	--	--	--	--	--	--
31...	243	--	107	--	36	--	195	4.2	--	5.6	210
FEB											
07...	236	--	106	--	33	--	190	4.1	--	5.6	200
08...	--	100	--	36	--	190	--	--	4.7	--	--
08...	--	--	--	--	--	--	--	--	--	--	--
14...	248	--	110	--	34	--	190	4.1	--	6.0	204
22...	--	--	--	--	--	--	--	--	--	--	--
22...	241	--	105	--	35	--	185	4.0	--	6.0	200
28...	232	--	106	--	31	--	165	3.6	--	5.8	192
MAR											
07...	241	--	105	--	35	--	185	4.0	--	6.0	200
08...	--	--	--	--	--	--	--	--	--	--	--
14...	232	--	104	--	32	--	165	3.6	--	5.6	192
21...	228	--	102	--	32	--	160	3.5	--	5.6	192
22...	--	--	--	--	--	--	--	--	--	--	--
28...	231	--	103	--	31	--	155	3.4	--	5.6	188
APR											
04...	231	--	101	--	32	--	155	3.4	--	5.6	188
11...	228	--	100	--	32	--	155	3.5	--	5.6	186
12...	--	--	--	--	--	--	--	--	--	--	--
18...	224	--	99	--	32	--	150	3.4	--	5.6	190
25...	226	--	98	--	33	--	150	3.3	--	5.4	188
MAY											
02...	228	--	100	--	34	--	165	3.6	--	6.0	198
03...	--	100	--	33	--	160	--	--	5.2	5.3	--
03...	--	--	--	--	--	--	--	--	--	--	--
09...	234	--	103	--	35	--	175	3.8	--	5.8	202
16...	240	--	102	--	37	--	170	3.7	--	5.4	202
23...	240	--	109	--	35	--	190	4.1	--	5.6	214
31...	236	--	105	--	35	--	180	3.9	--	5.6	206

09522000 COLORADO RIVER AT NORTHERLY INTERNATIONAL BOUNDARY,  
ABOVE MORELOS DAM, NEAR ANDRADE, CA--Continued

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPECIFIC CON- DUCT- ANCE (MICRO- MHNS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	DIS- SOLVED OXYGEN (MG/L)	CHEM- ICAL OXYGEN DEMAND (HIGH LFVFL) (MG/L)	FECAL CULI- FORM .7UM-MF (COL./ 100 ML)	FECAL STREP- TOCOCCI KF AGAR (COL. PER 100 ML)	HARD- NESS (CA, MG)
JUN											
06...	0830	1470	1550	8.2	26.0	7.0	--	--	--	--	405
07...	0830	1540	1540	8.0	26.0	--	7.3	11	200	180	--
13...	0830	1770	1530	8.1	25.5	6.0	--	--	--	--	405
20...	0830	2060	1560	8.2	--	3.0	--	--	--	--	405
27...	0835	2150	1480	8.0	26.5	9.0	--	15	--	--	390
JUL											
05...	0810	2450	1420	8.0	28.0	5.0	--	--	--	--	385
11...	0820	2500	1420	8.0	28.0	9.0	--	--	--	--	390
12...	0840	2600	1400	8.0	27.5	--	6.9	0	57	48	--
18...	0830	2680	1410	8.0	28.5	7.0	--	--	--	--	380
25...	0830	2680	1440	7.9	28.5	10	--	0	--	--	390
AUG											
01...	0830	2860	1380	8.0	--	4.0	--	--	--	--	370
08...	0830	2590	1380	7.9	--	3.0	--	--	--	--	370
09...	0900	2580	1300	7.8	28.5	--	6.5	15	100	38	--
09...	0910	2580	--	--	28.5	--	--	--	--	--	--
15...	0830	2490	1370	7.9	--	6.0	--	--	--	--	370
22...	1030	2100	1660	8.0	--	8.0	--	--	--	--	430
23...	0830	2160	--	--	29.5	--	--	14	--	--	--
29...	0850	2210	1610	8.0	29.0	6.0	--	--	--	--	420
SEP											
06...	0830	1500	1500	7.9	--	5.0	--	--	--	--	395
12...	0830	1660	1300	7.8	--	120	--	--	--	--	330
13...	0835	2120	1290	7.9	27.5	--	5.1	25	8600	960	--
19...	0835	1390	1620	7.9	24.0	23	--	--	--	--	420
26...	0835	1320	1630	7.9	25.5	8.0	--	--	--	--	420
27...	0845	1340	--	--	24.5	--	--	18	--	--	--

DATE	NON- CAR- BONATE HARD- NESS (MG/L)	TOTAL CAL- CIUM (CA) (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	TOTAL MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	TOTAL SODIUM (NA) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	TOTAL PO- TAS- SIUM (K) (MG/L)	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)
JUN											
06...	240	--	106	--	34	--	180	3.9	--	5.6	202
07...	--	--	--	--	--	--	--	--	--	--	--
13...	241	--	102	--	37	--	175	3.8	--	5.8	200
20...	240	--	107	--	34	--	180	3.9	--	5.6	202
27...	230	--	100	--	34	--	170	3.7	--	5.4	192
JUL											
05...	236	--	100	--	33	--	155	3.4	--	5.4	182
11...	239	--	99	--	35	--	155	3.4	--	5.6	184
12...	--	--	--	--	--	--	--	--	--	--	--
18...	229	--	98	--	33	--	155	3.5	--	5.8	184
25...	232	--	100	--	34	--	160	3.5	--	5.9	192
AUG											
01...	219	--	98	--	31	--	155	3.5	--	5.4	184
08...	219	--	98	--	31	--	155	3.5	--	5.5	184
09...	--	95	--	34	--	160	--	--	5.0	--	--
09...	--	--	--	--	--	--	--	--	--	--	--
15...	222	--	96	--	32	--	150	3.4	--	5.6	180
22...	248	--	109	--	38	--	195	4.1	--	6.6	222
23...	--	--	--	--	--	--	--	--	--	--	--
29...	250	--	109	--	36	--	185	3.9	--	5.8	208
SEP											
06...	236	--	101	--	35	--	170	3.7	--	5.5	194
12...	188	--	91	--	25	--	145	3.5	--	7.4	174
13...	--	--	--	--	--	--	--	--	--	--	--
19...	248	--	109	--	36	--	190	4.0	--	5.5	210
26...	248	--	106	--	38	--	190	4.0	--	5.7	210
27...	--	--	--	--	--	--	--	--	--	--	--

B Based on non-ideal colony count.

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

[illegible]

## COLORADO RIVER MAIN STEM

09522000 COLORADO RIVER AT NORTHERLY INTERNATIONAL BOUNDARY,  
ABOVE MORELOS DAM, NEAR ANDRADE, CA--Continued

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TOTAL ORGANIC NITRO- GEN (N) (MG/L)	TOTAL KJEL- DAHL- NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	DIS- SOL- VED- PHOS- PHORUS (P) (MG/L)	DIS- SOLVED- ORTHO- PHOS- PHORUS (P) (MG/L)
OCT						
04...	--	--	--	--	--	--
05...	.86	.88	1.3	.14	--	.05
12...	--	--	--	--	--	--
18...	--	--	--	--	--	--
19...	.34	.34	.35	.10	--	--
26...	--	--	--	--	--	--
NOV						
01...	--	--	--	--	--	--
08...	--	--	--	--	--	--
09...	.42	.62	1.0	.15	.09	.11
15...	--	--	--	--	--	--
22...	.20	.29	.56	.10	--	--
29...	--	--	--	--	--	--
DEC						
06...	--	--	--	--	--	--
07...	.09	.20	.73	.06	--	.04
13...	--	--	--	--	--	--
20...	--	--	--	--	--	--
20...	.30	.37	.63	.06	--	--
27...	--	--	--	--	--	--
JAN						
03...	--	--	--	--	--	--
10...	--	--	--	--	--	--
11...	.26	.37	.67	.08	--	.05
17...	--	--	--	--	--	--
24...	--	--	--	--	--	--
25...	.19	.30	.54	.05	--	--
31...	--	--	--	--	--	--
FEB						
07...	--	--	--	--	--	--
08...	.24	.41	.73	.09	.04	.05
14...	--	--	--	--	--	--
22...	.38	.51	.79	.09	--	--
22...	--	--	--	--	--	--
28...	--	--	--	--	--	--
MAR						
07...	--	--	--	--	--	--
08...	.32	.44	.65	.06	--	.03
14...	--	--	--	--	--	--
21...	--	--	--	--	--	--
22...	.26	.37	.65	.06	--	.04
28...	--	--	--	--	--	--
APR						
04...	--	--	--	--	--	--
11...	--	--	--	--	--	--
12...	.45	.56	.72	.08	--	.03
18...	--	--	--	--	--	--
25...	.14	.22	1.0	.03	--	--
MAY						
02...	--	--	--	--	--	--
03...	.11	.20	.46	.05	.02	.05
09...	--	--	--	--	--	--
16...	--	--	--	--	--	--
23...	--	--	--	.07	--	--
31...	--	--	--	--	--	--
JUN						
06...	--	--	--	--	--	--
07...	.88	.92	1.1	.09	--	.01
13...	--	--	--	--	--	--
20...	--	--	--	--	--	--
27...	.30	.35	.52	.06	--	--
JUL						
05...	--	--	--	--	--	--
11...	--	--	--	--	--	--
12...	.32	.37	.52	.05	--	.03
18...	--	--	--	--	--	--
25...	.50	.55	.71	.04	--	--
AUG						
01...	--	--	--	--	--	--
08...	--	--	--	--	--	--
09...	.41	.43	.62	.06	.03	.03
15...	--	--	--	--	--	--
22...	--	--	--	--	--	--
23...	.54	.63	.91	.10	--	--
29...	--	--	--	--	--	--
SEP						
06...	--	--	--	--	--	--
12...	--	--	--	--	--	--
13...	.05	.11	.57	.14	--	.02
19...	--	--	--	--	--	--
26...	--	--	--	--	--	--
27...	.08	.11	.41	.09	--	--



09522000 COLORADO RIVER AT NORTHERLY INTERNATIONAL BOUNDARY,  
ABOVE MORELOS DAM, NEAR ANDRADE, CA--Continued

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TOTAL NITRATE (N) (MG/L)	DIS- SOLVED NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	DIS- SOLVED NITRITE (N) (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)
OCT							
04...	--	.43	--	--	--	--	--
05...	.38	--	.03	.03	.41	.39	.02
12...	--	.29	--	--	--	--	--
18...	--	.32	--	--	--	--	--
19...	.01	--	.00	--	.01	--	.00
26...	--	.16	--	--	--	--	--
NOV							
01...	--	.27	--	--	--	--	--
08...	--	.20	--	--	--	--	--
09...	.36	--	.03	.02	.39	.35	.20
15...	--	.25	--	--	--	--	--
22...	.25	.36	.02	--	.27	--	.09
29...	--	.36	--	--	--	--	--
DEC							
06...	--	.32	--	--	--	--	--
07...	.52	--	.01	.01	.53	.46	.11
13...	--	.59	--	--	--	--	--
20...	--	.27	--	--	--	--	--
20...	.25	--	.01	--	.26	--	.07
27...	--	.29	--	--	--	--	--
JAN							
03...	--	.27	--	--	--	--	--
10...	--	.36	--	--	--	--	--
11...	.29	--	.01	.02	.30	.31	.11
17...	--	.25	--	--	--	--	--
24...	--	.36	--	--	--	--	--
25...	.23	--	.01	--	.24	--	.11
31...	--	.34	--	--	--	--	--
FEB							
07...	--	.32	--	--	--	--	--
08...	.31	--	.01	.01	.32	.25	.17
14...	--	.29	--	--	--	--	--
22...	.27	--	.01	--	.28	--	.13
22...	--	.23	--	--	--	--	--
28...	--	.23	--	--	--	--	--
MAR							
07...	--	.29	--	--	--	--	--
08...	.21	.26	.00	.00	.21	.26	.12
14...	--	.23	--	--	--	--	--
21...	--	.23	--	--	--	--	--
22...	.28	.27	.00	.00	.28	.27	.11
28...	--	.16	--	--	--	--	--
APR							
04...	--	.18	--	--	--	--	--
11...	--	.16	--	--	--	--	--
12...	.15	--	.01	.01	.16	.17	.11
18...	--	.14	--	--	--	--	--
25...	.78	.18	.02	--	.80	--	.08
MAY							
02...	--	.18	--	--	--	--	--
03...	.25	.24	.01	.01	.26	.25	.09
09...	--	.25	--	--	--	--	--
16...	--	.18	--	--	--	--	--
23...	.26	.27	.01	--	.27	--	.02
31...	--	.18	--	--	--	--	--
JUN							
06...	--	.23	--	--	--	--	--
07...	.18	--	.03	.01	.21	.24	.04
13...	--	.23	--	--	--	--	--
20...	--	.20	--	--	--	--	--
27...	.15	.16	.02	--	.17	--	.05
JUL							
05...	--	.16	--	--	--	--	--
11...	--	.20	--	--	--	--	--
12...	.13	.16	.02	.00	.15	.16	.05
18...	--	.20	--	--	--	--	--
25...	.15	.23	.01	--	.16	--	.05
AUG							
01...	--	.14	--	--	--	--	--
08...	--	.16	--	--	--	--	--
09...	.18	--	.01	.01	.19	.14	.02
15...	--	.16	--	--	--	--	--
22...	--	.29	--	--	--	--	--
23...	.26	--	.02	--	.28	--	.09
29...	--	.16	--	--	--	--	--
SEP							
06...	--	.23	--	--	--	--	--
12...	--	1.0	--	--	--	--	--
13...	.42	.02	.04	.01	.46	.03	.06
19...	--	.29	--	--	--	--	--
26...	--	.27	--	--	--	--	--
27...	.28	--	.02	--	.30	--	.03

## COLORADO RIVER MAIN STEM

09522000 COLORADO RIVER AT NORTHERLY INTERNATIONAL BOUNDARY,  
ABOVE MORELOS DAM, NEAR ANDRADE, CA--Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TOTAL ARSENIC (AS) (UG/L)	DIS- SOLVED ARSENIC (AS) (UG/L)	DIS- SOLVED BORON (B) (UG/L)	TOTAL CAD- MIUM (CD) (UG/L)	DIS- SOLVED CAD- MIUM (CD) (UG/L)	DIS- SOLVED CHROM- MIUM (CR) (UG/L)	TOTAL COBALT (CO) (UG/L)	DIS- SOLVED COBALT (CO) (UG/L)	TOTAL COPPER (CU) (UG/L)	DIS- SOLVED COPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)
OCT											
05...	--	--	300	--	--	--	--	--	--	--	970
19...	--	--	--	--	--	--	--	--	--	--	630
NOV											
09...	4	3	280	10	0	0	<50	0	<10	0	560
22...	--	--	--	--	--	--	--	--	--	--	1200
DEC											
07...	--	--	230	--	--	--	--	--	--	--	400
20...	--	--	220	--	--	--	--	--	--	--	--
JAN											
11...	--	--	250	--	--	--	--	--	--	--	420
25...	--	--	230	--	--	--	--	--	--	--	480
FEB											
08...	2	1	160	<10	0	0	50	0	<10	2	420
22...	--	--	230	--	--	--	--	--	--	--	1300
MAR											
08...	--	--	220	--	--	--	--	--	--	--	820
22...	--	--	210	--	--	--	--	--	--	--	860
APR											
12...	--	--	190	--	--	--	--	--	--	--	1200
25...	--	--	190	--	--	--	--	--	--	--	860
MAY											
03...	3	3	210	<10	0	0	<50	0	10	0	750
23...	--	--	240	--	--	--	--	--	--	--	890
JUN											
07...	--	--	230	--	--	--	--	--	--	--	840
27...	--	--	220	--	--	--	--	--	--	--	450
JUL											
12...	--	--	200	--	--	--	--	--	--	--	520
25...	--	--	200	--	--	--	--	--	--	--	570
AUG											
09...	2	4	190	10	3	0	<50	1	10	3	460
23...	--	--	300	--	--	--	--	--	--	--	520
SEP											
13...	--	--	210	--	--	--	--	--	--	--	2100
27...	--	--	250	--	--	--	--	--	--	--	730

DATE	DIS- SOLVED IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	DIS- SOLVED LEAD (PB) (UG/L)	TOTAL MANG- ANESE (MN) (UG/L)	DIS- SOLVED MANG- ANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	DIS- SOLVED MERCURY (HG) (UG/L)	TOTAL SILIC- NIUM (SF) (UG/L)	DIS- SOLVED SILIC- NIUM (SE) (UG/L)	TOTAL ZINC (ZN) (UG/L)	DIS- SOLVED ZINC (ZN) (UG/L)
OCT											
05...	--	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--	--
NOV											
09...	30	<100	1	110	40	.0	.1	3	2	10	10
22...	--	--	--	--	--	--	--	--	--	--	--
DEC											
07...	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--
JAN											
11...	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--
FEB											
08...	20	<100	3	120	110	.2	.0	3	3	10	0
22...	--	--	--	--	--	--	--	--	--	--	--
MAR											
08...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
APR											
12...	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--
MAY											
03...	0	<100	0	110	20	.0	.0	3	3	10	0
23...	--	--	--	--	--	--	--	--	--	--	--
JUN											
07...	--	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--	--
JUL											
12...	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--
AUG											
09...	80	<100	16	90	10	.0	.0	4	3	20	8
23...	--	--	--	--	--	--	--	--	--	--	--
SEP											
13...	--	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--	--

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

09522000 COLORADO RIVER AT NORTHERLY INTERNATIONAL BOUNDARY,  
ABOVE MORELOS DAM, NEAR ANDRADE, CA--Continued

## PESTICIDE ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	TOTAL ORGANIC CARBON (C) (MG/L)	TOTAL PCR (UG/L)	TOTAL ALDRIN (UG/L)	ALDRIN IN BOTTOM MA- TERIAL (UG/KG)	TOTAL ATRA- ZINE (UG/L)	ATRA- ZINE IN BOTTOM MATERI- AL (UG/ KG DRY SOLIDS)	TOTAL CHLOR- DANE (UG/L)	CHLOR- DANE IN BOTTOM MA- TERIAL (UG/KG)	TOTAL DDD (UG/L)
OCT										
05...	0830	3.7	.0	.00	--	--	--	.0	--	.00
19...	0830	3.1	--	--	--	--	--	--	--	--
NOV										
09...	0855	2.8	--	--	--	--	--	--	--	--
09...	0930	--	--	ND	ND	ND	ND	ND	ND	ND
22...	0835	2.7	--	--	--	--	--	--	--	--
DEC										
07...	0730	3.3	.0	.00	--	--	--	.0	--	.00
20...	0840	2.6	--	--	--	--	--	--	--	--
JAN										
11...	0840	2.8	.0	.00	--	--	--	.0	--	.00
25...	0900	.7	--	--	--	--	--	--	--	--
FEB										
08...	0840	2.7	.0	.00	--	--	--	.0	--	.00
08...	0850	--	--	ND	--	ND	--	ND	--	ND
22...	0840	3.4	--	--	--	--	--	--	--	--
MAR										
08...	0900	3.2	.0	.00	--	--	--	.0	--	.00
22...	0830	3.5	--	--	--	--	--	--	--	--
APR										
12...	0845	3.9	.0	.00	--	--	--	.0	--	.00
25...	0840	3.0	--	--	--	--	--	--	--	--
MAY										
03...	0920	3.5	.0	.00	--	--	--	.0	--	.00
03...	0925	--	--	ND	ND	ND	ND	ND	ND	ND
23...	1050	3.7	--	--	--	--	--	--	--	--
JUN										
07...	0830	3.4	.0	.00	--	--	--	.0	--	.00
27...	0835	2.9	--	--	--	--	--	--	--	--
JUL										
12...	0840	3.1	.0	.00	--	--	--	.0	--	.00
25...	0830	2.6	--	--	--	--	--	--	--	--
AUG										
09...	0900	3.3	.0	.00	--	--	--	.0	--	.00
09...	0910	--	--	ND	--	ND	--	ND	--	ND
23...	0830	3.7	--	--	--	--	--	--	--	--
SEP										
13...	0835	4.2	.0	.00	--	--	--	.0	--	.00
27...	0845	2.7	--	--	--	--	--	--	--	--

DATE	DDD IN BOTTOM MA- TERIAL (UG/KG)	TOTAL DDE (UG/L)	DDE IN BOTTOM MA- TERIAL (UG/KG)	P,P' DDE IN BOTTOM MA- TERIAL (UG/KG)	TOTAL DDT (UG/L)	DDT IN BOTTOM MA- TERIAL (UG/KG)	TOTAL DI- AZINON (UG/L)	DI- AZINON IN BOTTOM MA- TERIAL (UG/KG)	TOTAL DI- ELDRIN (UG/L)
OCT									
05...	--	.00	--	--	.00	--	.00	--	.00
19...	--	--	--	--	--	--	--	--	--
NOV									
09...	--	--	--	--	--	--	--	--	--
09...	ND	ND	--	.4	ND	ND	ND	ND	ND
22...	--	--	--	--	--	--	--	--	--
DEC									
07...	--	.00	--	--	.00	--	.01	--	.00
20...	--	--	--	--	--	--	--	--	--
JAN									
11...	--	.00	--	--	.00	--	.00	--	.00
25...	--	--	--	--	--	--	--	--	--
FEB									
08...	--	.00	--	--	.00	--	.00	--	.00
08...	--	ND	--	--	ND	--	ND	--	ND
22...	--	--	--	--	--	--	--	--	--
MAR									
08...	--	.00	--	--	.00	--	.01	--	.00
22...	--	--	--	--	--	--	--	--	--
APR									
12...	--	.00	--	--	.00	--	.01	--	.00
25...	--	--	--	--	--	--	--	--	--
MAY									
03...	--	.00	--	--	.00	--	.00	--	.00
03...	ND	ND	ND	--	ND	ND	ND	ND	ND
23...	--	--	--	--	--	--	--	--	--
JUN									
07...	--	.00	--	--	.00	--	.00	--	.00
27...	--	--	--	--	--	--	--	--	--
JUL									
12...	--	.00	--	--	.00	--	.00	--	.00
25...	--	--	--	--	--	--	--	--	--
AUG									
09...	--	.00	--	--	.00	--	.00	--	.00
09...	--	ND	--	--	ND	--	ND	--	ND
23...	--	--	--	--	--	--	--	--	--
SEP									
13...	--	.00	--	--	.00	--	.01	--	.00
27...	--	--	--	--	--	--	--	--	--

ND Material specifically analyzed for but not detected.

## COLORADO RIVER MAIN STEM

09522000 COLORADO RIVER AT NORTHERLY INTERNATIONAL BOUNDARY,  
ABOVE MORELOS DAM, NEAR ANDRADE, CA--Continued

## PESTICIDE ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	DI- ELDRIN IN BOTTOM MA- TERIAL (UG/KG)	TOTAL ENDRIN (UG/L)	ENDRIN IN BOTTOM MA- TERIAL (UG/KG)	TOTAL ETHION (UG/L)	ETHION IN BOTTOM MA- TERIAL (UG/KG)	TOTAL HEPTA- CHLOR (UG/L)	HEPTA- CHLOR IN BOTTOM MA- TERIAL (UG/KG)	TOTAL HEPTA- CHLOR EPOXIDE (UG/L)	HEPTA- CHLOR EPOXIDE IN BOT- TOM MA- TERIAL (UG/KG)	TOTAL LINDANE (UG/L)	LINDANE IN BOTTOM MA- TERIAL (UG/KG)
OCT												
05...	0830	--	.00	--	.00	--	.00	--	.00	--	.00	--
NOV												
09...	0930	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
DEC												
07...	0730	--	.00	--	.00	--	.00	--	.00	--	.00	--
JAN												
11...	0840	--	.00	--	.00	--	.00	--	.00	--	.00	--
FEB												
08...	0840	--	.00	--	.00	--	.00	--	.00	--	.00	--
08...	0850	--	ND	--	ND	--	ND	--	ND	--	ND	--
MAR												
08...	0900	--	.00	--	.00	--	.00	--	.00	--	.00	--
APR												
12...	0845	--	.00	--	.00	--	.00	--	.00	--	.00	--
MAY												
03...	0920	--	.00	--	.00	--	.00	--	.00	--	.00	--
03...	0925	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
JUN												
07...	0830	--	.00	--	.00	--	.00	--	.00	--	.00	--
JUL												
12...	0840	--	.00	--	.00	--	.00	--	.00	--	.00	--
AUG												
09...	0900	--	.00	--	.00	--	.00	--	.00	--	.00	--
09...	0910	--	ND	--	ND	--	ND	--	ND	--	ND	--
SEP												
13...	0835	--	.00	--	.00	--	.00	--	.00	--	.00	--

DATE	TOTAL MALA- THION (UG/L)	MALA- THION IN BOTTOM MA- TERIAL (UG/KG)	TOTAL METH- OXY- CHLOR (UG/L)	METHOX- YCHLOR IN BOT- TOM MA- TERIAL (UG/KG)	TOTAL METHYL PARA- THION (UG/L)	METHYL PARA- THION IN BOT- TOM MA- TERIAL (UG/KG)	TOTAL METHYL TRI- THION (UG/L)	METHYL TRI- THION IN BOT- TOM MA- TERIAL (UG/KG)	TOTAL PAPA- THION (UG/L)	PARA- THION IN BOTTOM MA- TERIAL (UG/KG)	SIMA- ZINE TOTAL COUL- SON COND. (UG/L)
OCT											
05...	.00	--	--	--	.00	--	.00	--	.00	--	--
NOV											
09...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
DEC											
07...	.00	--	--	--	.00	--	.00	--	.00	--	--
JAN											
11...	.00	--	--	--	.00	--	.00	--	.00	--	--
FEB											
08...	.00	--	--	--	.00	--	.00	--	.00	--	--
08...	ND	--	ND	--	ND	--	ND	--	ND	--	ND
MAR											
08...	.00	--	--	--	.00	--	.00	--	.00	--	--
APR											
12...	.00	--	--	--	.00	--	.00	--	.00	--	--
MAY											
03...	.00	--	--	--	.00	--	.00	--	.00	--	--
03...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
JUN											
07...	.00	--	--	--	.00	--	.00	--	.00	--	--
JUL											
12...	.00	--	--	--	.00	--	.00	--	.00	--	--
AUG											
09...	.00	--	--	--	.00	--	.00	--	.00	--	--
09...	ND	--	ND	--	ND	--	ND	--	ND	--	ND
SEP											
13...	.00	--	--	--	.05	--	.00	--	.01	--	--

ND Material specifically analyzed for but not detected.

09522000 COLORADO RIVER AT NORTHERLY INTERNATIONAL BOUNDARY,  
ABOVE MORELOS DAM, NEAR ANDRADE, CA--Continued

## PESTICIDE ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	SIMA- ZINE IN BOTTOM MATERI- AL (UG/ KG DRY SOLIDS)	TOTAL TOX- APHENE (UG/L)	TOTAL TOX- APHENE MATERI- AL (UG/KG)	TOTAL TRI- THION (UG/L)	TOTAL TRI- THION MATERI- AL (UG/KG)	TOTAL 2,4-D (UG/L)	TOTAL 2,4-D MATERI- AL (UG/KG)	TOTAL 2,4,5-T (UG/L)	TOTAL 2,4,5-T MATERI- AL (UG/KG)	TOTAL SILVEX (UG/L)	TOTAL SILVEX MATERI- AL (UG/KG)
OCT 05...	--	0	--	.00	--	.01	--	.00	--	.02	--
NOV 09...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
DEC 07...	--	0	--	.00	--	.00	--	.00	--	.00	--
JAN 11...	--	0	--	.00	--	.00	--	.00	--	.00	--
FEB 08...	--	0	--	.00	--	.00	--	.00	--	.00	--
08...	--	ND	--	ND	--	ND	--	ND	--	ND	--
MAR 08...	--	0	--	.00	--	.00	--	.00	--	.00	--
APR 12...	--	0	--	.00	--	.00	--	.00	--	.00	--
MAY 03...	--	0	--	.00	--	.00	--	.00	--	.00	--
03...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
JUN 07...	--	0	--	.00	--	.00	--	.00	--	.00	--
JUL 12...	--	0	--	.00	--	.00	--	.00	--	.00	--
AUG 09...	--	0	--	.00	--	.00	--	.00	--	.00	--
09...	--	ND	--	ND	--	ND	--	ND	--	ND	--
SEP 13...	--	0	--	.00	--	.00	--	.00	--	.00	--

ND Material specifically analyzed for but not detected.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	BIOMASS CHLORO- PHYLL RATIO PERI- PHYTON (UNITS)	CHLOR-A PERI- PHYTON CHROMO- SPECT- METRIC (MG/M <sup>2</sup> )	CHLOR-B PERI- PHYTON CHROMO- SPECT- METRIC (MG/M <sup>2</sup> )	TOTAL PHYTO- PLANK- TON (CELLS PER ML)	CHLORO- PHYLL A (UG/L)	CHLORO- PHYLL B (UG/L)
OCT 05...	0830	--	--	--	16000	28.8	19.2
NOV 09...	0855	1578	1.56	.759	3400	7.90	.000
DEC 07...	0730	--	--	--	1200	11.5	9.48
JAN 11...	0840	--	--	--	800	.000	.000
FEB 08...	0840	--	--	--	64	--	--
MAR 08...	0900	--	--	--	400	--	--
APR 12...	0845	--	--	--	--	5.95	3.47
MAY 03...	0920	--	--	--	1800	--	--
JUN 07...	0830	--	--	--	6100	--	--
JUL 12...	0840	--	--	--	290	--	--
AUG 09...	0900	1254	--	--	1200	1.10	1.53
SEP 13...	0835	--	--	--	790	.783	.000

## COLORADO RIVER MAIN STEM

09522000 COLORADO RIVER AT NORTHERLY INTERNATIONAL BOUNDARY,  
ABOVE MORELOS DAM, NEAR ANDRADE, CA--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1620	1740	1720	1510	1620	1490	1430	1460	1530	1410	1380	1570
2	1710	1750	1700	1590	1600	1510	1450	1470	1520	1460	1410	1540
3	1720	1760	1670	1630	1600	1520	1450	1470	1540	1420	1420	1470
4	1820	1780	1590	1670	1630	1520	1420	1460	1550	1420	1420	1480
5	1820	1760	1570	1660	1690	1560	1420	1480	1570	1420	1420	1490
6	1820	1740	1520	1690	1620	1500	1400	1490	1550	1420	1440	1500
7	1770	1780	1530	1710	1600	1580	1400	1510	1540	1420	1420	1520
8	1780	1770	1520	1650	1580	1510	1400	1510	1520	1420	1380	1520
9	1770	1780	1510	1640	1550	1490	1490	1520	1480	1430	1390	1510
10	1760	1740	1510	1670	1540	1480	1430	1500	1510	1430	1380	1540
11	1630	1710	1540	1710	1570	1500	1400	1490	1530	1420	1390	1570
12	1630	1690	1530	1740	1570	1520	1390	1490	1530	1420	1390	1300
13	1640	1690	1520	1740	1610	1470	1410	1500	1530	1420	1430	1300
14	1610	1700	1520	1770	1620	1460	1400	1510	1530	1440	1420	1340
15	1630	1580	1510	1750	1610	1450	1400	1550	1550	1420	1370	1510
16	1610	1730	1490	1700	1610	1440	1390	1510	1550	1420	1300	1590
17	1620	1770	1500	1710	1580	1440	1410	1540	1550	1430	1220	1610
18	1660	1780	1500	1750	1590	1450	1390	1600	1580	1410	1240	1630
19	1640	1830	1520	1770	1610	1440	1380	1630	1550	1440	1240	1620
20	1650	1860	1540	1690	1590	1450	1380	1650	1560	1430	1300	1620
21	1620	1820	1490	1700	1570	1440	1390	1660	1520	1440	1510	1570
22	1690	1760	1470	1650	1570	1450	1420	1640	1500	1440	1660	1580
23	1600	1810	1470	1640	1550	1400	1370	1630	1500	1430	1790	1590
24	1620	1760	1510	1670	1540	1410	1400	1600	1500	1470	1840	1580
25	1650	1750	1550	1670	1500	1420	1380	1530	1520	1440	1730	1630
26	1670	1730	1580	1670	1500	1420	1360	1530	1510	1430	1640	1630
27	1710	1710	1710	1630	1490	1450	1360	1520	1480	1430	1600	1620
28	1740	1740	1560	1610	1470	1420	1380	1530	1430	1420	1590	1620
29	1740	1730	1510	1590	---	1430	1400	1570	1410	1410	1610	1560
30	1700	1780	1500	1600	---	1410	1420	1610	1410	1420	1550	1580
31	1720	---	1510	1650	---	1410	---	1550	---	1430	1530	---
TOTAL	52370	52530	47870	51830	44180	45440	42120	47710	45550	44260	45410	46190
MEAN	1690	1750	1540	1670	1580	1470	1400	1540	1520	1430	1460	1540
MAX	1820	1860	1720	1770	1690	1580	1490	1660	1580	1470	1840	1630
MIN	1600	1580	1470	1510	1470	1400	1360	1460	1410	1410	1220	1300

WTR YR 1977 TOTAL 565460 MEAN 1550 MAX 1860 MIN 1220

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

## PHYTOPLANKTON

DATE JUN 7, 77  
TIME 1402  
TOTAL COUNT 15  
DIVERSITY: PHYLIUM 0.0  
..CLASS 0.0  
..ORDFR 0.7  
...FAMILY 0.0  
....GENUS 0.0  
....GENUS+INFCTA 0.0

ORGANISM COUNT  
ARTHROPODA (ARTHROPODS)  
..INSECTA  
...DIPTERA  
...EMPTOTIDAE 1  
...TRICHOPTERA 13  
...ODONATA  
...COENAGRIONIDAE 1

09522000 COLORADO RIVER AT NORTHERLY INTERNATIONAL BOUNDARY,  
ABOVE MORELOS DAM, NEAR ANDRADE, CA--Continued

## QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

## PHYTOPLANKTON

DATE TIME	OCT 5,76 0830	NOV 9,76 0855	DEC 7,76 0730	JAN 11,77 0840	FEB 8,77 0840	MAR 8,77 0900
TOTAL CFLLS/ML	16000	3400	1200	800	64	400
DIVERSITY: DIVISION	0.7	0.6	0.1	1.6	0.0	0.9
..CLASS	0.7	0.6	0.1	1.6	0.0	0.9
..ORDER	0.9	1.2	0.8	2.3	1.0	1.4
...FAMILY	0.9	1.3	1.2	3.2	2.0	2.8
....GENUS	1.6	1.6	1.8	3.5	2.0	3.2

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)												
..CHLOROPHYCEAE												
...CHLOROCOCCALES												
...COELASTRACEAE												
...COELASTRUM	--	-	--	-	--	-	--	-	--	-	--	-
...DUCYSTACEAE												
...ANKISTRODESMUS	--	-	--	-	--	-	4	1	--	-	--	-
...KIRCHNERIELLA	*	0	--	-	--	-	--	-	--	-	--	-
...SELFNASTRUM	--	-	59	2	--	-	--	-	--	-	--	-
...TETRAEDRUM	--	-	--	-	--	-	--	-	--	-	--	-
...WESTELLA	*	0	--	-	--	-	--	-	--	-	--	-
...SCENEDESMACEAE												
...SCENEDESMUS	530	3	--	-	--	-	16	2	--	-	--	-
...VOLVOCALES												
...CHLAMYDOMONADACEAE												
...CARTERIA	--	-	--	-	--	-	16	2	--	-	--	-
...CHLAMYDOMONAS	620	4	--	-	--	-	36	5	--	-	--	-
...ZYGEMATALES												
...DESMIDIACEAE												
...COSMARINUM	--	-	--	-	--	-	--	-	--	-	--	-
CHRYSDOPHYTA												
..BACILLARIOPHYCEAE												
...PENNIALES												
...NAVICULACEAE												
...ENTOMONEIS	--	-	--	-	9	1	12	2	--	-	7	2
...CENTRALES												
...CUSCUTODISCACEAE												
...CYCLOTELLA	9900# 63		240	7	770# 63		77	10	28# 44		13	3
...MELOSIRA	3700# 23		2400# 70		200# 16		64	8	--	-	53	13
...PENNIALES												
...ACHNANTHACEAE												
...ACHNANTHES	--	-	--	-	--	-	--	-	--	-	17	4
...COCconeis	--	-	--	-	26	2	12	2	--	-	3	1
...RHOTICOSPHEMIA	--	-	--	-	--	-	--	-	--	-	3	1
...CYMBELLACEAE												
...AMPHORA	*	0	--	-	17	1	20	3	4	6	--	-
...CYMBELLA	--	-	--	-	--	-	--	-	--	-	3	1
...RHODALDIA	--	-	--	-	--	-	--	-	--	-	--	-
...DIATOMACEAE												
...DIATOMA	--	-	--	-	--	-	8	1	--	-	7	2
...FRAGILARIACEAE												
...FRAGILARIA	--	-	--	-	--	-	--	-	4	6	--	-
...SYNDURA	--	-	--	-	--	-	12	2	--	-	--	-
...GOMPHONEMACEAE												
...GOMPHONEMA	--	-	--	-	--	-	--	-	--	-	3	1
...NAVICULACEAE												
...CALONEIS	--	-	--	-	--	-	*	0	--	-	--	-
...DIPLONEIS	--	-	--	-	9	1	--	-	--	-	--	-
...NAVICULA	88	1	240	7	77	6	52	7	12# 19		77# 19	
...PTENULARIA	--	-	--	-	--	-	--	-	--	-	7	2
...NITZSCHIA	270	2	180	5	110	9	77	10	16# 25		87# 22	
...SUWIRELLACEAE												
...SUWIRELLA	--	-	--	-	--	-	4	1	--	-	20	5
...NAVICULACEAE												
...PLACINTROPIS	--	-	--	-	--	-	--	-	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)												
..CYANOPHYCEAE												
...CHROCOCCOCCALES												
...CHROCOCCACEAE												
...ARMENIUM												
...ANACYSTIS	530	3	--	-	--	-	48	6	--	-	--	-
...HORMOGONIALES												
...NOSTOCACEAE												
...ANABAFNA	--	-	--	-	--	-	--	-	--	-	33	8
...ANABAFNOPHIS	--	-	--	-	--	-	81	10	--	-	--	-
...OSCILLATORIACEAE												
...LYNGBYA	--	-	--	-	--	-	--	-	--	-	--	-
...OSCILLATORIA	--	-	--	-	--	-	220# 28		--	-	60# 15	
...RIVULARIACEAE												
...RAPHIDIOPSIS	--	-	180	5	--	-	--	-	--	-	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%

\* - PRESERVED ORGANISM; MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

## COLORADO RIVER MAIN STEM

09522000 COLORADO RIVER AT NORTHERLY INTERNATIONAL BOUNDARY,  
ABOVE MORELOS DAM, NEAR ANDRADE, CA--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

## PHYTOPLANKTON

DATE TIME	OCT 5,76 0830		NOV 9,76 0855		DEC 7,76 0730		JAN 11,77 0840		FEB 8,77 0840		MAR 8,77 0900	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
EUGLENOPHYTA (EUGLENIDS)												
..CRYPTOPHYCEAE												
...CRYPTOMONIDAE												
...CRYPTOCHRYSIDACEAE												
...CHROMONAS	--	-	--	-	9	1	16	2	--	-	--	-
...CRYPTOMONODACEAE												
...CRYPTOMONAS	88	1	--	-	--	-	20	3	--	-	--	-
..EUGLENOPHYCEAE												
..EUGLENALES												
...ASTASIACEAE												
...ASTASIA	--	-	--	-	9	1	--	-	--	-	--	-
...EUGLENACEAE												
...EUGLENA	--	-	--	-	--	-	--	-	--	-	3	1
...PHACUS												
...TRACHELOMONAS	88	1	120	4	--	-	--	-	--	-	--	-
PYRRHOPHYTA (FIRE ALGAE)												
..DINOPHYCEAE												
..GYMNODINIALES												
...GYMNODINIACEAE												
...GYMNODINIUM	--	-	--	-	--	-	--	-	--	-	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%

\* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%



09522000 COLORADO RIVER AT NORTHERLY INTERNATIONAL BOUNDARY,  
ABOVE MORELOS DAM, NEAR ANDRADE, CA--Continued

## QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

## PHYTOPLANKTON

DATE TIME	MAY 3,77 0920	JUN 7,77 0830	JUL 12,77 0840	AUG 9,77 0900	SEP 13,77 0835	
TOTAL CELLS/ML	1800	6100	290	1200	790	
DIVERSITY: DIVISION	1.1	1.4	0.7	1.1	1.3	
..CLASS	1.1	1.4	0.7	1.1	1.3	
..ORDER	1.9	2.0	1.4	1.5	2.1	
...FAMILY	2.5	2.3	2.7	2.0	2.2	
....GENUS	3.1	2.5	2.8	2.4	2.5	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)						
..CHLOROPHYCEAE						
...CHLOROCOCCALES						
....COELASTRACEAE						
.....COFLASTRUM	--	-	--	-	25	8
.....DCCYSTACEAE						
.....ANKISTRUMESMUS	41	2	39	1	--	-
.....KIRCHNERIELLA	--	-	--	-	11	1
.....SELENASTRUM	--	-	--	-	--	-
.....TETRAEDRON	--	-	--	-	*	0
.....WESTELLA	--	-	--	-	--	-
...SCENEDESMACEAE						
.....SCENEDESMUS	210	11	710	12	69	6
..VOLVOCALES						
...CHLAMYDOMONADACEAE						
.....CARIFRITA	41	2	160	3	--	-
.....CHLAMYDOMONAS	21	1	--	-	*	0
...ZYGNEPHATALES						
...DESMIDIACEAE						
...COSMARITUM	--	-	--	-	37	13
CHRYSTOPHYTA						
..BACILLARIOPHYCEAE						
...PENNALES						
...NAVICULACEAE						
....FENTOMONETS	--	-	--	-	*	0
...CENTRALES						
...COSCINODISCAEAE						
....CYCLOTELLA	310#	17	2400#	40	18	6
....MELUSIRA	510#	28	240	4	18	6
...PENNALFS						
...ACHNANTHACEAE						
....ACHNANTHES	21	1	--	-	--	-
....COCCONEIS	--	-	--	-	--	-
....RHODICUSPHEMIA	--	-	--	-	--	-
...CYMBELLACEAE						
....CYMBELLA	--	-	39	1	--	-
....RHODALDIA	--	-	--	-	--	-
....DIATOMACEAE						
.....DIATOMA	--	-	--	-	92#	31
...FRAGILIARIACEAE						
....FRAGILARIA	120	7	160	3	--	-
....SYNEDRA	--	-	--	-	49#	17
...GOMPHONEMACEAE						
....GOMPHONEMA	21	1	39	1	--	-
...NAVICULACEAE						
....CALONETS	10	1	39	1	--	-
....DIPLONEIS	10	1	--	-	--	-
....NAVICULA	140	8	280	5	31	10
....PINNULARIA	--	-	--	-	--	-
...NITZSCHACEAE						
....NITZSCHIA	140	8	430	7	18	6
...SURIRELLACEAE						
....SURIRELLA	--	-	--	-	--	-
...NAVICULACEAE						
....PLAGIOTROPIS	--	-	--	-	*	0
CYANOPHYTA (BLUE-GREEN ALGAE)						
..CYANOPHYCEAE						
...CHROCOCCOCCALES						
....CHROCOCCOCCAEAE						
.....AGMENELLUM	--	-	--	-	43	4
.....ANACYSTIS	--	-	1500#	25	--	-
...HYPHOGONALES						
....NOSTOCACEAE						
.....ANABAENA	--	-	--	-	--	-
.....ANABAENOPSIS	--	-	--	-	--	-
...OSCILLATORIACEAE						
....LYNGBYA	--	-	--	-	--	-
....OSCILLATORIA	220	12	--	-	85	7
...RIVULARIACEAE					630#	54
....RAPHIDIUM	--	-	--	-	58	5

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%

\* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

## COLORADO RIVER MAIN STEM

09522000 COLORADO RIVER AT NORTHERLY INTERNATIONAL BOUNDARY,  
ABOVE MORELOS DAM, NEAR ANDRADE, CA--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

## PHYTOPLANKTON

DATE TIME	MAY 3,77 0920		JUN 7,77 0830		JUL 12,77 0840		AUG 9,77 0900		SEP 13,77 0835	
ORGANISM	CFLLS /ML	PER- CENT	CELLS /ML	PER- CENT	CFLLS /ML	PER- CENT	CELLS /ML	PER- CENT	CFLLS /ML	PER- CENT
EUGLENOPHYTA (EUGLENIDS)										
..CRYPTOPHYCEAE										
...CRYPTOMONIDAE										
...CRYPTOCHRYSIDACEAE										
...CHROMONAS	--	-	--	-	--	-	--	-	--	-
...CRYPTOMONADACEAE										
...CRYPTOMONAS	--	-	--	-	--	-	--	-	--	-
EUGLENOPHYCEAE										
..EUGLENALFS										
...ASTASTACEAE										
...ASTASIA	--	-	--	-	--	-	--	-	--	-
...EUGLENACEAE										
...EUGLENA	--	-	--	-	--	-	--	-	8	1
...PHACUS	--	-	--	-	--	-	--	-	17	2
...TRACHELOMONAS	--	-	--	-	--	-	--	-	--	-
PYRRHOPHYTA (FIRE ALGAE)										
..DINOPHYCEAE										
...GYMNODINIALES										
...GYMNODINIACEAE										
...GYMNODINTUM	--	-	--	-	--	-	--	-	8	1

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%

\* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

## 09522500 GILA GRAVITY MAIN CANAL AT IMPERIAL DAM, AZ-CA

LOCATION.--Lat 32°52'34", long 114°27'18", in SE¼SW¼ sec.30, T.6 S., R.21 W., Gila and Salt River meridian, Yuma County, Hydrologic Unit 15030107, on right bank 3,200 ft (975 m) downstream from intake at east end of Imperial Dam.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1943 to current year.

GAGE.--Water-stage recorder. Datum of gage is 160.00 ft (48.768 m) above mean sea level.

REMARKS.--Records excellent except those below 100 ft<sup>3</sup>/s (2.8 m<sup>3</sup>/s), which are fair. Gila Gravity Main Canal diverts water from Colorado River at left end of Imperial Dam for irrigation of lands in the Gila Project area in Arizona. Diversions to this canal began Aug. 17, 1943. Diversions to North Gila Valley from this canal began Dec. 16, 1954. During the 1976 calendar year, water was used for irrigation of 102,414 acres (414 km<sup>2</sup>) divided as follows: North and South Gila Valleys, 15,977 acres (64.7 km<sup>2</sup>); Yuma Mesa Division, 18,452 acres (74.7 km<sup>2</sup>); Wellton-Mohawk Division, 64,684 acres (262 km<sup>2</sup>); Yuma Mesa Auxiliary Division, 3,301 acres (13.4 km<sup>2</sup>).

AVERAGE DISCHARGE.--18 years (1959-77), 1,210 ft<sup>3</sup>/s (34.27 m<sup>3</sup>/s), 876,600 acre-ft/yr (1,080 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 2,240 ft<sup>3</sup>/s (63.4 m<sup>3</sup>/s) May 25, 1965; no flow at canal intake at times in several years when intake gates were closed.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	811	575	.00	41	1010	1170	1110	1160	1520	1940	2020	1890
2	634	819	.00	54	988	1150	848	1770	1700	1530	2070	1790
3	753	873	157	153	1010	1090	738	1810	1760	1120	2100	1580
4	1230	841	1010	216	922	920	1380	1660	1500	1550	2080	1250
5	1350	689	637	218	822	725	1450	1750	1220	1940	2070	1390
6	1340	577	1180	112	733	543	1560	1780	1640	2120	1750	1690
7	1280	466	1220	177	1160	1170	1390	1240	1830	2130	1480	1590
8	1140	910	1300	222	1450	1260	1290	947	1900	1820	1840	1720
9	1030	981	1090	351	1350	1200	832	1410	1930	1620	2050	1650
10	777	1210	906	464	1180	1790	722	1300	1680	1350	2060	1320
11	1050	1010	862	347	928	1170	1520	1350	1250	1690	2060	824
12	1160	816	774	198	833	905	1590	1270	920	1890	2050	1260
13	1180	590	1040	292	811	768	1680	842	1580	2000	1620	1410
14	1220	603	1060	352	1030	1210	1580	740	1660	2100	1100	1370
15	1200	966	1090	280	1340	1120	1280	644	1600	1880	1180	1430
16	1010	940	1040	202	1120	1110	1190	1390	1580	1640	180	1450
17	684	1030	819	689	1330	1120	843	1190	1510	1240	76	1020
18	956	920	513	866	1030	1040	1530	1210	1370	1830	235	657
19	976	913	426	698	939	871	1580	1300	1310	1730	214	1210
20	1200	742	784	628	835	550	1610	1160	1710	2040	140	1300
21	1090	464	801	341	1270	1030	1640	814	1770	1970	239	1240
22	660	626	699	209	1190	1130	1400	731	1820	1920	736	1180
23	294	744	508	216	1280	1210	1240	1530	1990	1610	960	1090
24	257	318	293	760	1230	1250	1000	1610	2020	1060	978	1010
25	549	2.0	98	795	1000	1120	1530	1540	1580	1860	1250	717
26	455	.00	203	882	991	991	1740	1360	1240	1980	1280	1180
27	420	.00	754	939	720	979	1730	1340	1750	2040	1350	1040
28	445	.00	758	621	1020	1150	1640	971	1980	2070	1150	1140
29	380	.00	606	433	---	1360	1660	843	1870	2060	1780	1060
30	303	.00	552	416	---	1490	1260	1300	2000	1640	2080	764
31	362	---	295	1000	---	1340	---	1530	---	1410	2020	---
TOTAL	26196	18625.00	21475.00	13172	29522	33532	40563	39492	49190	54780	42198	38222
MEAN	845	621	693	425	1054	1082	1352	1274	1640	1767	1361	1274
MAX	1350	1210	1300	1000	1450	1490	1740	1810	2020	2130	2100	1890
MIN	257	.00	.00	41	720	543	722	644	920	1060	76	657
AC-FT	51960	36940	42600	26130	58560	66510	80460	78330	97570	108700	83700	75810
CAL YR 1976	TOTAL	435021.00	MEAN	1189	MAX	2150	MIN	.00	AC-FT	862900		
WTR YR 1977	TOTAL	406967.00	MEAN	1115	MAX	2130	MIN	.00	AC-FT	807200		

DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM  
09522500 GILA GRAVITY MAIN CANAL AT IMPERIAL DAM, AZ-CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--January 1956 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: January 1956 to current year

INSTRUMENTATION.--Water temperature recorder since January 1956.

REMARKS.--Temperature probe above water surface Nov. 26 to Dec. 2. Unpublished chemical analyses (partial record) for water years 1965-67 available from district office in Tucson, Ariz.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum, 33.0°C Aug. 29-31, 1970; minimum, 7.0°C Jan. 13-17, 1964, Jan. 4-7, 1971.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum, 30.5°C Aug. 14, 15, 21, Sept. 5-10; minimum, 9.5°C Dec. 28, Jan. 12-18.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	INSTANTANEOUS DIS-CHARGE (CFS)	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	HARDNESS (CA, MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)	DIS-SOLVED CALCIUM (CA) (MG/L)	DIS-SOLVED MAGNESIUM (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	SODIUM ADSORPTION RATIO	DIS-SOLVED POTASSIUM (K) (MG/L)
OCT 27...	1255	448	1510	8.4	19.5	400	240	100	37	180	3.9	5.9
JAN 26...	1335	837	1340	8.2	13.0	380	240	98	34	140	3.1	5.0
APR 27...	1105	1730	1240	8.3	22.5	360	220	91	33	130	3.0	5.1
JUL 20...	1035	2140	1240	7.8	28.5	360	220	87	34	130	3.0	5.2

DATE	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLORIDE (CL) (MG/L)	DIS-SOLVED FLUORIDE (F) (MG/L)	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DIS-SOLVED SOLIDS PER AC-FT (MG/L)	DIS-SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED IRON (FE) (UG/L)
OCT 27...	200	0	400	160	.5	11	990	994	1.35	.21	230	10
JAN 26...	174	0	330	130	.5	8.8	880	833	1.20	.25	190	0
APR 27...	180	0	310	120	.4	7.0	818	786	1.11	.05	170	20
JUL 20...	170	0	320	120	.4	9.4	810	790	1.10	.05	170	20

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	26.5	25.5	18.5	18.0	---	---	11.0	10.0	12.5	12.0	14.5	14.0
2	26.5	26.0	18.5	18.5	---	---	11.0	10.5	12.0	11.5	14.5	14.0
3	26.0	25.0	18.5	18.5	---	---	11.5	10.5	11.5	11.5	14.5	14.0
4	25.5	25.0	18.5	18.5	12.0	11.5	11.5	11.5	11.5	11.5	14.5	14.5
5	25.0	24.5	18.5	18.5	12.0	12.0	11.5	11.5	11.5	11.5	14.5	14.0
6	24.5	24.0	18.5	18.5	12.0	12.0	11.5	11.5	11.5	11.5	14.0	14.0
7	24.0	24.0	18.5	18.5	12.0	11.5	11.5	11.5	11.5	11.5	14.0	14.0
8	24.0	24.0	18.5	18.5	12.0	11.5	11.5	11.5	11.5	11.5	14.5	14.0
9	24.0	23.5	18.5	18.5	11.5	11.5	11.5	11.5	11.5	11.5	15.0	14.5
10	23.5	23.0	18.5	18.5	11.5	11.5	12.0	11.5	11.5	11.5	15.0	15.0
11	23.5	23.0	18.5	18.5	11.5	11.5	12.0	10.0	12.0	11.5	15.0	14.5
12	23.5	23.0	18.5	18.5	11.5	11.5	10.0	9.5	12.0	12.0	14.5	14.5
13	23.5	23.5	18.5	18.0	11.5	11.5	9.5	9.5	12.0	12.0	14.5	14.5
14	23.5	23.5	18.0	18.0	11.5	11.0	9.5	9.5	12.0	12.0	15.0	14.5
15	24.0	23.5	18.0	17.0	11.0	11.0	9.5	9.5	14.0	12.0	15.0	15.0
16	24.0	23.5	17.0	16.5	11.0	11.0	9.5	9.5	14.0	14.0	15.0	15.0
17	24.0	23.5	16.5	16.5	11.0	11.0	9.5	9.5	14.5	14.0	15.0	15.0
18	24.0	23.5	16.5	16.5	11.0	11.0	10.0	9.5	15.0	14.5	15.0	15.0
19	23.5	23.5	16.5	16.5	11.5	11.0	10.0	10.0	15.0	15.0	15.5	15.0
20	23.5	23.0	16.5	16.5	11.5	11.5	10.5	10.0	15.0	15.0	16.0	15.5
21	23.5	23.0	16.5	16.5	11.5	11.5	11.5	10.5	15.0	15.0	16.0	16.0
22	23.0	21.5	16.5	16.5	11.5	11.0	12.5	11.5	15.0	15.0	17.0	16.0
23	21.5	21.0	16.5	16.5	11.0	11.0	13.5	15.0	15.0	15.0	18.0	17.0
24	21.0	21.0	16.5	16.5	11.0	11.0	13.5	13.5	15.0	15.0	18.0	18.0
25	21.5	21.0	---	---	11.0	10.5	13.5	13.0	15.0	14.0	18.0	17.0
26	21.5	21.0	---	---	10.5	10.0	13.0	12.5	14.0	13.5	17.0	16.0
27	21.0	19.5	---	---	10.0	10.0	12.5	12.5	14.0	14.0	16.0	16.0
28	19.5	19.0	---	---	10.0	9.5	12.5	12.5	14.0	14.0	16.0	16.0
29	19.0	18.5	---	---	10.0	10.0	12.5	12.5	---	---	16.0	16.0
30	18.5	18.0	---	---	10.0	10.0	12.5	12.5	---	---	16.0	16.0
31	18.0	18.0	---	---	10.0	10.0	12.5	12.5	---	---	16.0	16.0
MONTH	26.5	18.0	18.5	16.5	12.0	9.5	13.5	9.5	15.0	11.5	18.0	14.0
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	16.0	16.0	23.0	22.0	27.0	26.0	29.0	28.5	29.0	28.5	28.5	28.5
2	16.0	16.0	23.0	22.0	27.0	26.5	29.5	29.0	29.5	28.5	29.0	28.5
3	16.0	15.5	23.0	22.0	27.0	26.0	29.5	29.0	29.5	29.0	29.5	29.0
4	15.5	15.5	22.0	22.0	28.0	26.5	29.5	28.5	30.0	29.0	30.0	29.5
5	16.5	15.5	22.0	22.0	28.0	27.0	29.5	28.5	30.0	29.0	30.5	30.0
6	18.5	16.5	22.0	21.5	28.0	26.5	29.5	28.5	30.0	29.5	30.5	30.5
7	19.5	18.5	21.5	21.5	27.0	26.5	30.0	29.5	30.0	29.0	30.5	30.5
8	20.0	19.5	21.5	21.0	27.0	26.5	29.5	29.0	29.5	29.0	30.5	30.5
9	20.0	20.0	21.0	21.0	27.0	26.5	29.5	29.0	29.5	29.0	30.5	30.5
10	20.0	20.0	21.0	21.0	26.5	26.0	29.5	29.0	30.0	29.0	30.5	29.5
11	20.0	19.5	21.5	21.0	26.5	26.0	29.5	29.0	30.0	29.0	29.5	29.0
12	19.5	19.5	21.5	21.5	27.0	26.0	29.5	29.0	30.0	29.0	29.0	28.0
13	19.5	19.5	21.5	21.0	27.0	26.0	29.0	28.5	30.0	29.5	29.0	28.0
14	20.0	19.5	21.5	21.0	27.0	26.0	28.5	28.0	30.5	29.5	29.0	29.0
15	20.5	20.0	22.0	21.5	27.0	26.5	29.0	28.5	30.5	29.5	29.0	28.0
16	20.5	20.0	22.0	22.0	28.0	27.0	30.0	29.0	29.5	28.5	28.0	26.5
17	21.0	20.5	22.0	21.0	28.0	28.0	30.0	29.5	28.5	27.5	26.5	25.0
18	21.0	21.0	21.5	21.5	28.0	26.5	30.0	29.0	28.5	27.5	25.0	25.0
19	21.0	21.0	23.0	21.5	27.0	26.5	29.5	29.0	29.5	28.5	25.0	25.0
20	21.0	20.5	23.5	23.0	26.5	26.5	29.0	28.5	30.0	29.5	25.0	25.0
21	20.5	20.5	24.0	23.0	26.5	26.5	29.0	28.5	30.5	29.5	25.0	25.0
22	20.5	20.5	24.5	24.0	27.0	26.5	29.5	28.5	30.0	30.0	25.0	25.0
23	21.0	20.5	24.5	24.0	27.0	27.0	29.5	29.0	30.0	30.0	25.0	25.0
24	22.0	21.0	24.0	23.0	28.0	27.0	29.5	28.5	30.0	29.5	25.0	25.0
25	23.0	21.5	23.0	22.0	28.0	28.0	29.5	29.0	30.0	30.0	25.5	25.0
26	23.0	22.0	23.0	22.0	28.0	27.5	29.5	29.0	30.0	29.0	25.5	25.0
27	23.0	23.0	23.5	22.5	28.0	27.5	29.5	29.0	29.0	28.5	25.5	25.5
28	23.0	22.0	25.0	23.5	28.0	27.5	30.0	29.5	29.0	28.5	26.0	25.0
29	23.0	22.0	25.0	24.5	28.5	28.0	30.0	30.0	29.0	28.5	26.0	26.0
30	23.0	22.0	25.5	24.5	28.5	28.5	30.0	30.0	29.0	28.5	26.0	26.0
31	---	---	26.0	25.0	---	---	30.0	29.0	28.5	28.5	---	---
MONTH	23.0	15.5	26.0	21.0	28.5	26.0	30.0	28.0	30.5	27.5	30.5	25.0
YEAR	30.5	9.5										

## DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM

09523000 ALL-AMERICAN CANAL NEAR IMPERIAL DAM, AZ-CA

LOCATION.--Lat 32°52'17", long 114°28'47", in SE¼NW¼ sec.17, T.15 S., R.24 E., San Bernardino meridian, in California, Imperial County, Hydrologic Unit 15030107, on left bank 6,000 ft (1,829 m) downstream from intake at west end of Imperial Dam and 13.7 mi (22.0 km) upstream from turnout to Yuma Main Canal.

PERIOD OF RECORD.--October 1938 to current year. Prior to October 1939 monthly discharge only, published in WSP 1313.

GAGE.--Water-stage recorder. Datum of gage is 150.00 ft (45.720 m) above mean sea level (subject to undetermined changes caused by earthquake of May 18, 1940). Since Aug. 21, 1952, auxiliary water-stage recorder 18.5 mi (29.8 km) downstream from base gage.

REMARKS.--Records excellent. All-American Canal diverts water from Colorado River at Imperial Dam. Water is used for power development and for irrigation in Yuma, Coachella, and Imperial Valleys. Water can be released back to the river through Pilot Knob powerplant and wasteway for power, regulatory purposes, or for downstream use in Mexico. First diversion to All-American Canal began October 1938, but prior to October 1940 was used only for priming canal.

COOPERATION.--Gage-height record furnished by Imperial Irrigation District. After Apr. 3, daily discharge figures furnished by Imperial Irrigation District (discharge figures reviewed in accordance with Geological Survey standard practice).

AVERAGE DISCHARGE.--36 years (1941-77), 6,920 ft<sup>3</sup>/s (196.0 m<sup>3</sup>/s), 5,014,000 acre-ft/yr (6,180 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 13,500 ft<sup>3</sup>/s (382 m<sup>3</sup>/s), Apr. 16, 1938; no flow at times.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4700	3080	4520	3110	4210	7090	8560	7600	7040	9560	10200	7610
2	4700	3170	4950	3070	4250	7040	8660	7540	7410	9390	10300	7600
3	4790	3560	5030	3370	4340	7010	8320	7920	7550	9550	10400	7360
4	4730	4240	4660	3530	4620	6630	8610	8150	7950	9620	10200	6290
5	4910	4320	4420	2880	4160	6390	8920	8010	7360	9690	10200	5890
6	5350	3990	4610	2950	4030	5750	9280	8120	7470	9970	10000	5710
7	5630	3750	4540	3200	4090	6340	9560	7230	7730	9780	9860	5690
8	5860	4120	4750	3100	4560	6950	9640	6550	7850	9790	10000	5580
9	5710	4250	5150	2490	4920	7400	9670	6680	7900	9400	10200	5180
10	5710	4100	5200	2350	5390	7860	9340	6620	7520	9230	10300	4980
11	6390	4120	4950	2690	5460	7820	9510	6640	6880	9430	10100	4130
12	6140	2920	4920	2820	5130	8090	10100	6590	6390	9820	9640	3800
13	5970	1910	5220	3290	5220	7980	10200	6240	6580	9800	9610	4060
14	5500	1650	5220	3230	5860	8090	10200	5680	6760	9380	9620	4340
15	5430	1650	5090	2750	6310	8630	10100	5020	7210	9490	8850	4360
16	5310	1990	5100	2730	6430	8840	10100	5120	7830	9460	9070	4410
17	4870	2420	5380	2760	6000	8560	9850	5090	7550	9320	7930	4660
18	4750	2490	5190	3180	6130	8310	10000	6000	7800	9780	8020	4580
19	4750	2590	4870	3380	5650	7850	10300	6580	7170	9900	3370	4800
20	4790	2750	5220	3790	5380	7120	10500	6010	7450	10000	2630	4910
21	4660	2630	5520	3660	6000	7550	10800	6830	7730	10200	2670	4960
22	4330	2960	5370	3390	6040	7890	10700	7120	7890	10200	3200	5050
23	4050	3000	5080	3340	6460	8020	10300	7460	8310	9890	3690	4940
24	3480	3290	4210	3060	7110	8950	9680	7300	8290	9680	4030	4970
25	3670	3300	3330	3340	6920	8970	10100	7240	8540	9630	4250	4510
26	3640	3590	3250	3710	6650	8970	10100	6640	8450	9990	4820	4770
27	3670	3970	4460	4050	6720	7860	10300	6230	8730	10200	5410	4820
28	3440	3880	4980	3980	6650	8690	9820	6170	9160	10300	5250	4990
29	3560	4080	5180	3720	---	8720	9320	5540	9440	9890	5580	4780
30	3460	4550	5390	3630	---	8890	8710	5920	9440	10300	6320	4790
31	3060	---	4170	4090	---	8580	---	6360	---	10200	7100	---
TOTAL	147010	98320	149930	100640	154690	243240	291250	207000	233380	302840	232820	154520
MEAN	4742	3277	4836	3246	5532	7846	9708	6677	7779	9769	7510	5151
MAX	6390	4550	5520	4090	7110	8970	10800	8150	9440	10300	10400	7610
MIN	3060	1650	3250	2350	4030	5750	8320	5020	6390	9230	2630	3800
AC-FT	291600	195000	297400	199600	307200	482500	577700	410600	462900	600700	461800	306500
CAL YR 1976	TOTAL	2364480	MEAN	6466	MAX	10600	MIN	1650	AC-FT	4694000		
WTR YR 1977	TOTAL	2315840	MEAN	6345	MAX	10800	MIN	1650	AC-FT	4593000		

## 09527000 PILOT KNOB POWERPLANT AND WASTEWAY NEAR PILOT KNOB, CA

LOCATION.--Lat 32°44'15", long 114°42'56", in NW¼ sec.25, T.16 S., R.21 E., San Bernardino meridian, Imperial County, Hydrologic Unit 15030107, 2 mi (3 km) east of summit of Pilot Knob, 6 mi (10 km) west of Yuma, Ariz., and 20.8 mi (33.5 km) downstream from intake of All-American Canal at Imperial Dam.

PERIOD OF RECORD.--February 1939 to current year. Prior to October 1943 monthly discharge only, published in WSP 1313. Prior to October 1956, published as Pilot Knob wasteway near Pilot Knob.

GAGE.--Totalizing flowmeter on each turbine. In addition, water-stage recorder in forebay on right bank of All-American Canal (also used as auxiliary gage for sta 09527500); tailrace gage with remote recorder logged hourly in control house; calibrated wicket gates for turbine flow and calibrated bypass gates for wasteway flow which are logged for each change. Datum of forebay staff gage is 150.00 ft (45.720 m); that of tailrace staff gage is 0.00 ft (0.000 m); elevation of sill of bypass gates is 147.88 ft (45.074 m) above mean sea level.

REMARKS.--Records excellent above 1,200 ft<sup>3</sup>/s (34.0 m<sup>3</sup>/s) and good below. Daily discharge computed from flowmeter equipment or from head and gate openings on wicket gates. Records show water released through Pilot Knob powerplant and wasteway from All-American Canal and returned to Colorado River through Rockwood gates. Pilot Knob wasteway completed in summer of 1938 and first flow occurred Feb. 5, 1939. Pilot Knob powerplant was completed in January 1957 and first flow occurred Jan. 14, 1957. See table below for monthly return flow by Pilot Knob wasteway only.

COOPERATION.--Midnight readings of flowmeter, recorder graph of forebay, and record of tailrace elevation and gate openings furnished by Imperial Irrigation District.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 8,350 ft<sup>3</sup>/s (236 m<sup>3</sup>/s) Jan. 26, 1958; no flow for long periods.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	1760	.00	1780	2640	1750	.00	1660	2100	847
2	.00	.00	.00	1540	.00	1700	2740	1450	.00	1490	2120	.00
3	.00	.00	.00	1310	.00	1750	2730	1370	.00	1730	2050	.00
4	.00	.00	.00	980	.00	1810	2850	1260	.00	1830	2040	.00
5	.00	.00	44	.00	.00	1550	2850	1210	.00	1810	1970	.00
6	.00	.00	1050	.00	.00	1590	2920	1070	.00	1900	1980	.00
7	.00	.00	1080	.00	.00	1620	2840	.00	.00	1870	1960	.00
8	.00	.00	1240	.00	.00	1890	2580	.00	.00	1850	1940	.00
9	.00	.00	1400	.00	.00	1890	2810	.00	.00	1870	1910	.00
10	.00	.00	1430	.00	.00	1960	2940	.00	.00	1910	1920	.00
11	.00	.00	1430	.00	.00	1920	3020	.00	.00	1920	1800	.00
12	.00	.00	1540	.00	42	1870	3020	.00	.00	2000	1740	.00
13	.00	.00	1740	.00	1010	1960	3020	.00	1140	2000	1640	.00
14	.00	.00	1740	.00	1060	2080	3020	.00	1280	1680	1790	.00
15	.00	.00	1700	.00	1170	2050	3050	.00	1250	1740	3490	.00
16	.00	.00	1710	.00	1250	2080	3070	.00	1360	1850	7780	.00
17	.00	.00	1850	.00	1240	2080	3030	.00	1350	1920	6450	.00
18	.00	.00	1800	.00	1310	2080	3070	.00	1400	1960	7000	.00
19	.00	.00	1770	.00	1300	2110	3060	.00	1100	1940	2210	.00
20	.00	.00	1970	.00	1290	2180	3050	.00	1240	2020	985	.00
21	.00	.00	2160	.00	1460	2180	3080	.00	1440	2030	1000	.00
22	.00	.00	2120	.00	1360	2150	2660	.00	1500	1990	1070	.00
23	.00	.00	2040	.00	1400	2300	2700	.00	1550	2040	1200	.00
24	.00	.00	1990	.00	1460	2390	2880	.00	1600	2010	1310	.00
25	.00	.00	1770	.00	1560	2390	2880	.00	1540	1990	1400	.00
26	.00	.00	1770	.00	1570	2400	2850	.00	1500	2040	1460	.00
27	.00	601	1860	.00	1580	2400	2770	.00	1420	2050	1480	.00
28	.00	989	2040	.00	1480	2430	2640	.00	1530	1970	1500	.00
29	.00	999	2070	.00	---	2420	2460	.00	1550	1690	1500	.00
30	.00	993	2050	.00	---	2440	2230	.00	1520	1810	1400	.00
31	.00	---	2080	.00	---	2540	---	.00	---	1940	1210	---
TOTAL	.00	3582.00	45444.00	5590.00	21542.00	63990	85460	8110.00	25270.00	58510	69405	847.00
MEAN	.000	119	1466	180	769	2064	2849	262	842	1887	2239	28.2
MAX	.00	999	2160	1760	1580	2540	3080	1750	1600	2050	7780	847
MIN	.00	.00	.00	.00	.00	1550	2230	.00	.00	1490	985	.00
AC-FT	.00	7100	90140	11090	42730	126900	169500	16090	50120	116100	137700	1680
CAL YR 1976	TOTAL	345968.00	MEAN	945	MAX	5420	MIN	.00	AC-FT	686200		
WTR YR 1977	TOTAL	387750.00	MEAN	1062	MAX	7780	MIN	.00	AC-FT	769100		

## DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM

09527500 ALL-AMERICAN CANAL BELOW PILOT KNOB WASTEWAY, CA

LOCATION.--Lat 32°44'07", long 114°43'23", in NW¼SE¼ sec.26, T.16 S., R.21 E., San Bernardino meridian, Imperial County, Hydrologic Unit 15030107, on left bank 0.4 mi (0.6 km) downstream from Pilot Knob wasteway, 6 mi (10 km) west of Yuma, Ariz., 15 mi (24 km) upstream from turnout to Coachella Canal, and 21.2 mi (34.1 km) downstream from intake at Imperial Dam.

PERIOD OF RECORD.--October 1961 to current year.

GAGE.--Water-stage recorder. Datum of gage is 150.00 ft (45.720 m) above mean sea level. Auxiliary water-stage recorder on right bank 0.4 mi (0.6 km) upstream used to determine head on Pilot Knob check gates (also used as forebay gage for sta 09527000, Pilot Knob powerplant and wasteway). Datum of auxiliary gage is 150.00 ft (45.720 m) above mean sea level.

REMARKS.--Records excellent. Water is used for power development at three sites below station, and for irrigation in Coachella and Imperial Valleys.

COOPERATION.--Gage-height record and log of gate operation furnished by Imperial Irrigation District.

AVERAGE DISCHARGE.--16 years, 4,713 ft<sup>3</sup>/s (133.5 m<sup>3</sup>/s), 3,415,000 acre-ft/yr (4,210 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 7,610 ft<sup>3</sup>/s (216 m<sup>3</sup>/s) April 27, 28, 1976; no flow Jan. 4, 1967.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3670	2890	3150	1050	3190	4500	5080	5380	5880	6660	7100	5920
2	3710	2940	3550	1250	3300	4560	5300	5380	6130	6730	7140	6880
3	3960	3010	3660	1680	3390	4500	5140	5560	6200	6840	7200	6860
4	3880	3230	3480	2100	3420	4000	5310	5930	6490	6910	7070	5590
5	3950	3350	3510	2090	3230	4070	5580	5890	6380	6920	7080	5130
6	4310	3150	3310	2270	3300	3620	5830	6070	6380	7020	7050	4970
7	4690	3120	3020	2570	3310	4080	5870	6000	6520	6840	7080	4930
8	4960	3370	3020	2530	3680	4390	6110	5640	6610	6830	7300	4700
9	4840	3460	3130	2050	3930	4620	6020	5720	6310	6530	7360	4280
10	4880	3400	3210	1840	4170	4780	5760	5770	5910	6470	7330	4140
11	5200	3450	3100	2170	4160	4840	5790	5800	5440	6600	7200	3570
12	4980	2340	3030	2350	3870	5230	6130	5710	4960	6770	7010	3770
13	4860	1440	2990	2760	3560	5190	6180	5420	4730	6830	7140	3460
14	4420	1210	2990	2740	3990	5240	6130	5000	4740	6730	7080	3630
15	4290	1230	2920	2340	4350	5620	6080	4400	5070	6730	4990	3580
16	4280	1580	2900	2310	4330	5770	6200	4560	5430	6690	1020	3530
17	3940	1920	3080	2270	3930	5620	6250	4660	5160	6550	1290	3830
18	3630	1840	2960	2490	3920	5410	6330	5150	5290	6790	943	3840
19	3470	1820	2770	2670	3770	5110	6530	5560	5290	6850	1030	3980
20	3570	1920	2810	3040	3580	4520	6680	5230	5440	6860	1440	4070
21	3450	1870	2820	2970	3870	4960	6740	5440	5500	6960	1310	4180
22	3560	1820	2720	2800	3900	5270	6830	5740	5520	6960	1680	4290
23	3520	1870	2420	2820	4170	5440	6500	5910	5620	6830	2050	4270
24	3050	2100	1770	2550	4550	5610	6040	5990	5550	6800	2290	4290
25	3090	2150	1310	2690	4360	5680	6440	6060	5830	6780	2380	3890
26	3020	2340	1220	2900	4250	5820	6430	5640	5970	6910	2790	4030
27	3020	2610	2010	3190	4440	4860	6470	5360	6200	6980	3460	4120
28	2770	2360	2340	3240	4520	5440	6180	5340	6370	7100	3400	4350
29	2780	2410	2510	3040	---	5500	5980	4860	6620	6980	3560	4200
30	2920	2740	2840	2980	---	5650	5830	5280	6650	7220	4210	4210
31	2850	---	1750	3240	---	5220	---	5370	---	7190	5080	---
TOTAL	119520	72940	86300	76990	108440	155120	181740	169820	174190	211860	143063	131290
MEAN	3855	2431	2784	2484	3873	5004	6058	5478	5806	6834	4615	4376
MAX	5200	3460	3660	3240	4550	5820	6830	6070	6650	7220	7360	6480
MIN	2770	1210	1220	1050	3190	3620	5080	4400	4730	6470	943	3370
AC-FT	237100	144700	171200	152700	215100	307700	360500	336800	345500	420200	283800	260400
CAL YR 1976 TOTAL		1688639	MEAN	4614	MAX	7610	MIN	657	AC-FT	3349000		
WTR YR 1977 TOTAL		1631273	MEAN	4469	MAX	7360	MIN	943	AC-FT	3236000		



09527600 ALL AMERICAN CANAL BELOW DROP 1, NEAR CALEXICO, CA

## WATER-QUALITY RECORDS

LOCATION.--Lat 32°42'19", long 114°58'01", in SE¼NE¼NE¼ sec.1, T.16 S., R.19 E., Imperial County, on right bank of canal, 30 mi (48 km) east of Calexico, and 1.5 mi (2.4 km) below Drop 1 and the diversion to Coachella Canal.

PERIOD OF RECORD.--

CHEMICAL ANALYSES: October 1976 to September 1977.

COOPERATION.--Discharge records were furnished by Imperial Irrigation District.

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

		INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH  (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (CA,MG)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA)	DIS- SOLVED MAG- NE- SIUM (MG)	DIS- SOLVED SODIUM (NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO
AUG 26...	1230	4130	1280	8.6	27.5	350	210	89	32	140	46	3.2
SEP 19...	0900	4710	1250	8.2	26.0	400	260	89	42	130	41	2.8
DATE	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	ALKA- LINITY AS CACO3 (MG/L)	CARBON DIOXIDE (CO2) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SIO2) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L)	DIS- SOLVED SOLIDS (TONS PER AC-FT)	DIS- SOLVED SOLIDS (TONS PER DAY)
AUG 26...	5.1	174	0	143	.7	330	130	.4	9.5	823	1.12	9180
SEP 19...	5.8	160	0	131	1.6	370	130	.4	9.5	857	1.17	10900
DATE	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL ORGANIC NITRO- GEN (N) (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (NO3) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	DIS- SOLVED ORTHO- PHOS- PHORUS (P) (MG/L)	DIS- SOLVED ORTHO- PHOS- PHATE (PO4) (MG/L)	DIS- SOLVED BORON (B) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)
AUG 26...	.16	.16	.00	.43	.43	.59	2.6	.02	.01	.03	190	10
SEP 19...	.19	.19	.04	.63	.67	.86	3.8	.04	.04	.12	180	50
DATE	TIME	TOTAL ALDRIN (UG/L)	TOTAL CHLOR- DANE (UG/L)	TOTAL DDD (UG/L)	TOTAL DDE (UG/L)	TOTAL DDT (UG/L)	TOTAL DI- AZINON (UG/L)	TOTAL DI- ELDRIN (UG/L)	TOTAL ENDRIN (UG/L)	TOTAL ETHION (UG/L)	TOTAL HEPTA- CHLOR (UG/L)	TOTAL HEPTA- CHLOR EPOXIDE (UG/L)
AUG 26...	1230	.00	.0	.00	.00	.00	.00	.00	.00	.00	.00	.00
SEP 19...	0900	.00	.0	.00	.00	.00	.00	.00	.00	--	.00	.00
DATE	TOTAL LINDANE (UG/L)	TOTAL MALA- THION (UG/L)	TOTAL METHYL PARA- THION (UG/L)	TOTAL METHYL TRI- THION (UG/L)	TOTAL PARA- THION (UG/L)	TOTAL PCB (UG/L)	TOTAL TOX- APHENE (UG/L)	TOTAL TRI- THION (UG/L)	TOTAL 2,4-D (UG/L)	TOTAL 2,4,5-T (UG/L)	TOTAL SILVEX (UG/L)	
AUG 26...	.00	.00	.00	.00	.00	.0	0	.00	.04	.00	.00	
SEP 19...	.00	.00	.00	--	.00	.0	0	--	.00	.00	.00	

## SALTON SEA BASIN

09527600 ALL AMERICAN CANAL BELOW DROP 1, NEAR CALEXICO, CA--Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	TOTAL ALDRIN (UG/L)	TOTAL CHLOR- DANE (UG/L)	TOTAL DDD (UG/L)	TOTAL DDE (UG/L)	TOTAL DDT (UG/L)	TOTAL DI- AZINON (UG/L)	TOTAL DI- ELDRIN (UG/L)
OCT								
08...	1000	.00	.0	.00	.00	.00	.00	.00
NOV								
20...	1300	.00	.0	.00	.00	.00	.00	.00
DEC								
10...	1300	.00	.0	.00	.00	.00	.00	.00
JAN								
29...	1400	.00	.0	.00	.00	.00	.00	.00
FEB								
19...	1200	.00	.0	.00	.00	.00	.01	.00
MAR								
18...	1245	.00	.0	.00	.00	.00	.00	.00
APR								
20...	1550	.00	.0	.00	.00	.00	.00	.00
MAY								
13...	1200	.00	.0	.00	.00	.00	.03	.00
JUN								
03...	1200	.00	.0	.00	.00	.00	.00	.00
JUL								
29...	0800	.00	.0	.00	.00	.00	.00	.00
SEP								
21...	1330	.00	.0	.00	.00	.01	.00	.00

DATE	TOTAL ENDRIN (UG/L)	TOTAL ETHION (UG/L)	TOTAL HEPTA- CHLOR (UG/L)	TOTAL HEPTA- CHLOR EPOXIDE (UG/L)	DIS- SOLVED LINDANE (UG/L)	TOTAL LINDANE (UG/L)	TOTAL MALA- THION (UG/L)	TOTAL METHYL PARA- THION (UG/L)	TOTAL METHYL TRI- THION (UG/L)
OCT									
08...	.00	.00	.00	.00	--	.00	.00	.00	.00
NOV									
20...	.00	.00	.00	.00	--	.00	.00	.00	.00
DEC									
10...	.00	.00	.00	.00	--	.00	.00	.00	.00
JAN									
29...	.00	.00	.00	.00	--	.00	.00	.00	.00
FEB									
19...	.00	.00	.00	.00	--	.00	.00	.00	.00
MAR									
18...	.00	.00	.00	.00	--	.00	.00	.00	.00
APR									
20...	.00	.00	.00	.00	--	.00	.00	.00	.00
MAY									
13...	.00	.00	.00	.00	--	.00	.00	.00	.00
JUN									
03...	.00	.00	.00	.00	.00	.00	--	.00	.00
JUL									
29...	.00	.00	.00	.00	--	.00	.00	.00	.00
SEP									
21...	.00	.00	.00	.00	--	.00	.00	.00	.00

DATE	TOTAL PARA- THION (UG/L)	TOTAL PCB (UG/L)	POLY- CHLO- RINATED NAPH- THA- LENES (UG/L)	TOTAL TOX- APHENE (UG/L)	TOTAL TRI- THION (UG/L)	TOTAL 2,4-D (UG/L)	TOTAL 2,4,5-T (UG/L)	TOTAL SILVEX (UG/L)
OCT								
08...	.00	.0	.00	0	.00	.00	.00	.00
NOV								
20...	.00	.0	.00	0	.00	.00	.00	.00
DEC								
10...	.00	.0	.00	0	.00	.00	.00	.00
JAN								
29...	.00	.0	.00	0	.00	.00	.00	.01
FEB								
19...	.00	.0	.00	0	.00	.01	.00	.00
MAR								
18...	.00	.0	.00	0	.00	.00	.00	.00
APR								
20...	.00	.0	.00	0	.00	.00	.00	.00
MAY								
13...	.00	.0	.00	0	.00	.00	.00	.00
JUN								
03...	.00	.0	.00	0	.00	.00	.00	.00
JUL								
29...	.00	.0	.00	0	.00	.07	.00	.00
SEP								
21...	.00	.0	.00	0	.00	.06	.00	.00

09527600 ALL AMERICAN CANAL BELOW DROP 1, NEAR CALEXICO, CA--Continued

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DIS-CHARGE (CFS)	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	HARDNESS (CA, MG/L)	NON-CARBONATE HARDNESS (MG/L)	DIS-SOLVED CALCIUM (CA) (MG/L)	DIS-SOLVED MAGNESIUM (MG)	DIS-SOLVED SODIUM (NA) (MG/L)	PERCENT SODIUM	SODIUM ADSORPTION RATIO
OCT 08...	1000	4440	1180	8.1	22.0	340	200	86	30	140	47	3.3
NOV 20...	1300	2991	1300	8.3	17.5	370	210	94	32	150	47	3.4
DEC 10...	1300	2627	1450	8.2	14.0	350	200	91	29	150	48	3.5
JAN 29...	1400	3512	1370	8.4	13.0	360	220	93	32	140	45	3.2
FEB 19...	1200	1295	1470	8.1	16.5	400	220	100	36	190	51	4.1
MAR 18...	1245	5364	1620	8.4	17.0	360	210	93	31	140	45	3.2
APR 20...	1550	4295	1665	8.2	19.5	390	230	100	33	150	45	3.3
MAY 13...	1200	4970	1545	8.6	25.0	370	220	93	33	140	45	3.2
JUN 03...	1200	4800	1500	8.3	25.0	390	250	100	34	150	45	3.3
JUL 01...	0900	5080	1363	8.0	27.0	360	220	88	35	150	47	3.4
29...	0800	--	1267	8.1	29.0	370	230	95	32	140	45	3.2
SEP 21...	1330	2730	1250	8.1	27.0	400	230	99	36	160	46	3.5
DATE	DIS-SOLVED POTALS- SIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	ALKALINITY AS CAC03 (MG/L)	CARBON DIOXIDE (CO2) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLORIDE (CL) (MG/L)	DIS-SOLVED FLUORIDE (F) (MG/L)	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)
OCT 08...	5.0	170	0	139	2.2	330	120	.4	8.8	805	1.09	9650
NOV 20...	5.5	187	0	153	1.5	330	130	.5	9.3	844	1.15	6820
DEC 10...	5.5	174	0	143	1.8	330	130	.4	9.4	832	1.13	5900
JAN 29...	5.9	176	0	144	1.1	340	130	.4	8.3	838	1.14	7950
FEB 19...	5.6	213	0	175	2.7	390	190	.5	10	1030	1.40	3600
MAR 18...	5.7	180	0	148	1.1	340	120	.4	9.2	830	1.13	12000
APR 20...	5.7	193	0	158	1.9	390	130	.4	8.1	914	1.24	10600
MAY 13...	5.0	184	0	151	.7	340	130	.5	7.5	842	1.15	11300
JUN 03...	8.0	177	0	145	1.4	340	140	.5	8.6	870	1.18	11300
JUL 01...	6.0	180	0	148	2.9	350	140	.5	9.9	869	1.18	11900
29...	6.2	174	0	143	2.2	330	130	.4	9.6	831	1.13	--
SEP 21...	6.4	196	0	161	2.5	350	140	.5	11	903	1.23	6660
DATE	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	DIS-SOLVED NITRITE PLUS NITRATE (N) (MG/L)	TOTAL AMMONIA NITROGEN (N) (MG/L)	TOTAL ORGANIC NITROGEN (N) (MG/L)	TOTAL KJEL-DAHL NITROGEN (N) (MG/L)	TOTAL NITROGEN (N) (MG/L)	TOTAL NITROGEN (NO3) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	DIS-SOLVED ORTHO. PHOSPHORUS (P) (MG/L)	DIS-SOLVED ORTHO. PHOSPHATE (PO4) (MG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED IRON (FE) (UG/L)
OCT 08...	.11	.11	.12	.13	.25	.36	1.6	.04	.01	.03	180	10
NOV 20...	.17	.17	.02	.64	.66	.83	3.7	.02	.01	.03	200	0
DEC 10...	.23	.23	.04	.47	.51	.74	3.3	.00	.02	.06	180	0
JAN 29...	.40	.37	.09	.53	.62	1.0	4.5	.00	.01	.03	180	60
FEB 19...	.44	.36	.04	.21	.25	.69	3.1	.01	.01	.03	230	0
MAR 18...	.40	.40	.01	.75	.76	1.2	5.1	.07	.05	.15	180	60
APR 20...	.29	.29	.03	.39	.42	.71	3.1	.02	.00	.00	190	10
MAY 13...	.21	.36	.24	2.3	2.5	2.7	12	.07	.01	.03	180	130
JUN 03...	.20	.27	.29	1.7	2.0	2.2	9.7	.08	.01	.03	210	30
JUL 01...	.16	.26	.11	1.2	1.3	1.5	6.5	.06	.02	.06	80	30
29...	.19	.30	.08	.92	1.0	1.2	5.3	.06	.01	.03	180	10
SEP 21...	1.0	.66	.07	.93	1.0	2.0	8.9	.01	.02	.06	230	30

## SALTON SEA BASIN

09527600 ALL AMERICAN CANAL BELOW DROP 1, NEAR CALEXICO, CA--Continued

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	INSTANTANEOUS DIS-CHARGE (CFS)	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	HARDNESS (CA, MG/L)	NON-CARBONATE HARDNESS (MG/L)	DIS-SOLVED CALCIUM (CA) (MG/L)	DIS-SOLVED MAGNESIUM (MG)	DIS-SOLVED SODIUM (NA) (MG/L)	PERCENT SODIUM	SODIUM ADSORPTION RATIO
OCT 14...	1200	3800	1110	7.9	24.0	350	220	88	32	130	44	3.0
NOV 11...	1130	2870	990	8.4	19.3	350	210	92	30	160	49	3.7
JAN 12...	1200	--	1550	7.8	11.0	400	250	100	37	170	48	3.7
MAR 21...	1500	4400	1300	8.2	16.6	370	220	99	31	140	44	3.1
APR 20...	1115	5800	1120	8.3	21.0	350	210	86	32	130	44	3.0
JUN 08...	1000	5400	1150	7.8	26.0	360	210	91	32	140	45	3.2
JUL 13...	0900	5700	1100	8.1	28.0	350	210	84	34	140	46	3.3
AUG 24...	0900	--	1590	8.4	30.5	420	220	100	41	210	52	4.5
DATE	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	ALKALINITY AS CAC03 (MG/L)	CARBON DIOXIDE (CO2) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLORIDE (CL) (MG/L)	DIS-SOLVED FLUORIDE (F) (MG/L)	DIS-SOLVED SILICA (SI02) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)
OCT 14...	6.2	166	0	136	3.3	330	130	.4	11	812	1.10	8330
NOV 11...	6.5	172	0	141	1.1	350	160	.5	9.8	899	1.22	6970
JAN 12...	5.0	190	0	156	4.8	350	170	.5	11	939	1.28	--
MAR 21...	6.3	186	0	150	1.9	320	140	.5	9.7	840	1.14	9980
APR 20...	5.2	170	0	140	1.4	320	100	.5	7.9	766	1.04	12000
JUN 08...	5.4	180	0	150	4.6	320	130	.5	8.8	817	1.11	11900
JUL 13...	5.1	170	0	140	2.2	330	120	.5	11	810	1.10	12500
AUG 24...	7.0	240	0	200	1.5	410	180	.6	14	1080	1.47	--
DATE	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	DIS-SOLVED NITRITE PLUS NITRATE (N) (MG/L)	TOTAL AMMONIA NITROGEN (N) (MG/L)	TOTAL ORGANIC NITROGEN (N) (MG/L)	TOTAL KJEL-DAHL NITROGEN (N) (MG/L)	TOTAL NITROGEN (N) (MG/L)	TOTAL NITROGEN (NO3) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	DIS-SOLVED ORTHO. PHOSPHORUS (P) (MG/L)	DIS-SOLVED ORTHO. PHOSPHATE (PO4) (MG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED IRON (FE) (UG/L)
OCT 14...	.76	.59	.12	.64	.76	1.5	6.7	.11	.03	.09	180	20
NOV 11...	.22	1.9	.26	.84	1.1	2.0	8.6	.03	.01	.03	210	40
JAN 12...	.35	.39	.05	.32	.37	.72	3.2	.01	.02	.06	220	250
MAR 21...	.34	.34	.39	2.1	2.5	2.8	13	.09	.03	.09	180	30
APR 20...	.18	.16	.04	.78	.82	1.0	4.4	.04	.04	.12	160	40
JUN 08...	.22	.18	.13	1.1	1.2	1.4	6.3	.06	.02	.06	180	10
JUL 13...	.09	.29	.03	.29	.32	.44	1.9	.05	.01	.03	180	30
AUG 24...	.18	.29	.09	.49	.58	.71	3.1	.05	.00	.00	270	110

09527600 ALL AMERICAN CANAL BELOW DROP 1, NEAR CALEXICO, CA--Continued

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	TOTAL ALDRIN (UG/L)	TOTAL ATRA-ZINE (UG/L)	TOTAL CHLOR-DANE (UG/L)	TOTAL DDD (UG/L)	TOTAL DDE (UG/L)	TOTAL DDT (UG/L)	TOTAL DI-AZINON (UG/L)	TOTAL DI-ELDRIN (UG/L)	TOTAL ENDO-SULFAN (UG/L)
OCT 14...	1200	.00	--	.0	.00	.00	.00	.00	.00	--
NOV 11...	1130	.00	.00	.0	.00	.00	.00	.00	.00	.00
JAN 12...	1200	.00	.00	.0	.00	.00	.00	.01	.00	.00
MAR 21...	1500	.00	.00	.0	.00	.00	.00	.01	.00	.00
APR 20...	1115	.00	.00	.0	.00	.00	.00	.00	.00	.00
MAY 18...	1200	.00	.00	.0	.00	.00	.00	.00	.00	.00
JUN 08...	1000	.00	.00	.0	.00	.00	.00	.01	.00	.00
JUL 13...	0900	.00	.00	.0	.00	.00	.00	.00	.00	.00
AUG 24...	0900	.00	.00	.0	.00	.00	.02	.01	.00	.00

DATE	TOTAL ENDRIN (UG/L)	TOTAL ETHION (UG/L)	TOTAL HEPTA-CHLOR (UG/L)	TOTAL HEPTA-CHLOR EPOXIDE (UG/L)	TOTAL LINDANE (UG/L)	TOTAL MALA-THION (UG/L)	TOTAL METHYL PARA-THION (UG/L)	TOTAL METHYL TRI-THION (UG/L)	TOTAL PARA-THION (UG/L)
OCT 14...	.00	.00	.00	.00	.00	.00	.00	.00	.00
NOV 11...	.00	.00	.00	.00	.00	.00	.00	.00	.00
JAN 12...	.00	.00	.00	.00	.00	.00	.00	.00	.00
MAR 21...	.00	.00	.00	.00	.00	.01	.00	.00	.00
APR 20...	.00	.00	.00	.00	.00	.00	.00	.00	.00
MAY 18...	.00	.00	.00	.00	.00	.00	.00	.00	.00
JUN 08...	.00	.00	.00	.00	.00	.00	.00	.00	.00
JUL 13...	.00	.00	.00	.00	.00	.00	.00	.00	.00
AUG 24...	.00	.00	.00	.00	.00	.00	.01	.00	.01

DATE	TOTAL PHOS-DRIN (UG/L)	TOTAL PCB (UG/L)	POLY-CHLORINATED NAPHTHALENES (UG/L)	SIMA-ZINE TOTAL COUL-SON COND. (UG/L)	TOTAL TOX-APHENE (UG/L)	TOTAL TRI-THION (UG/L)	TOTAL 2,4-D (UG/L)	TOTAL 2,4,5-T (UG/L)	TOTAL SILVEX (UG/L)
OCT 14...	--	.0	.00	--	0	.00	.00	.00	.00
NOV 11...	.00	.0	.00	.00	0	.00	.00	.00	.00
JAN 12...	.00	.0	.00	.00	0	.00	.00	.00	.00
MAR 21...	.00	.0	.00	.00	0	.00	.00	.01	.00
APR 20...	.00	.0	.00	.00	0	.00	.00	.00	.00
MAY 18...	.00	.0	.00	.00	0	.00	.03	.00	.00
JUN 08...	.00	.0	.00	.00	0	.00	.00	.00	.00
JUL 13...	.00	.0	.00	.00	0	.00	.00	.00	.00
AUG 24...	.00	.0	.00	.00	0	.00	.02	.00	.00

## DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM

## Return surface flows below Imperial Dam, AZ-CA

Between Imperial Dam and the international boundary return surface flows from irrigated areas enter the Colorado River through many drains and wasteways in Arizona and California. Other return flows enter the Gila River below the gaging station near Dome (09520500). In addition, return flows collected by the Main Drain and East Main Canal are delivered across the international boundary for use in Mexico.

Diversions for irrigation in the Gila Project in Arizona are made at Imperial Dam by the Gila Gravity Main Canal. (See sta 09522500.) Diversions for the Yuma Project in Arizona and California are made at Imperial Dam by the All-American Canal (see sta 09523000) and by the Yuma Main Canal. (See stas 09524000 and 09525500.) See p. 444 for records of diversions.

See figure 4 on p. 128 for the schematic diagram showing location of diversions and return flows.

09525000. YUMA MAIN CANAL WASTEWAY.--See daily table elsewhere in this report.

09527000. PILOT KNOB POWERPLANT AND WASTEWAY.--See daily table elsewhere in this report.

09527900. MITTRY LAKE OUTLET CHANNEL.

LOCATION.--Water-stage recorder and sharp-crested weir, in NW $\frac{1}{4}$ SE $\frac{1}{4}$  sec.14, T.7 S., R.22 W., Hydrologic Unit 15030107, 1,000 ft (300 m) upstream from outlet to Colorado River and Laguna Dam.

PERIOD OF RECORD.--Monthly discharge October 1974 to current year.

REMARKS.--Record shows return flow to Colorado River from Mittry Lake. Prior to Nov. 6, 1974, records furnished by Bureau of Reclamation.

09528600. LAGUNA CANAL WASTEWAY.

LOCATION.--Water-stage recorder and sharp-crested weir, in SE $\frac{1}{4}$ SW $\frac{1}{4}$  sec. 14, T.7 S., R.22 W., Hydrologic Unit 15030107, 1,000 ft (300 m) downstream from Laguna Dam and 0.7 mi (1.1 km) upstream from outlet to Colorado River.

PERIOD OF RECORD.--Monthly discharge October 1960 to current year.

REMARKS.--Record shows waste water from North Gila Valley Irrigation District returned to Colorado River. Flow record computed from standard weir rating.

09528800. LEVEE CANAL WASTEWAY.

LOCATION.--Water-stage recorder and sharp-crested weir, in SE $\frac{1}{4}$ SW $\frac{1}{4}$  sec.4, T.8 S., R.22 W., Hydrologic Unit 15030107, 1,000 ft (300 m) upstream from outlet to Colorado River.

PERIOD OF RECORD.--Monthly discharge October 1960 to current year.

REMARKS.--Record shows waste water from North Gila Valley Irrigation District returned to Colorado River.

09529000. NORTH GILA DRAIN NO. 1.

LOCATION.--Water-stage recorder, in SE $\frac{1}{4}$ SW $\frac{1}{4}$  sec.4, T.8 S., R.22 W., Hydrologic Unit 15030107, 0.25 mi (0.40 km) upstream from outlet to Colorado River and 5.5 mi (8.8 km) downstream from Laguna Dam. No gage prior to Oct. 16, 1974.

PERIOD OF RECORD.--Monthly discharge October 1960 to current year.

REMARKS.--Record shows waste water from North Gila Valley Irrigation District returned to Colorado River. Prior to Oct. 16, 1974, flow records were computed by interpolation between discharge measurements made monthly.

09529050. NORTH GILA DRAIN NO. 3.

LOCATION.--Drain enters wasteway to Gila River in NE $\frac{1}{4}$ NE $\frac{1}{4}$  sec.18, T.8 S., R.21 W., Hydrologic Unit 15070201, 1,000 ft (300 m) upstream from Gila River.

PERIOD OF RECORD.--Monthly discharge April 1962 to current year.

REMARKS.--Record shows seepage from Gila Gravity Main Canal. There is no gage; records are computed by interpolation between discharge measurements made monthly.

09529100. FORTUNA WASTEWAY.

LOCATION.--Water-stage recorder and sharp-crested weir, in NE $\frac{1}{4}$  sec.30, T.8 S., R.21 W., Hydrologic Unit 15070201, 1.3 mi (2.1 km) upstream from Gila River.

PERIOD OF RECORD.--Monthly discharge October 1960 to September 1963, October 1964 to current year.

REMARKS.--Record shows waste water spilled from Gila Gravity Main Canal; flow rarely reaches Gila River.

09529150. NORTH GILA MAIN CANAL WASTEWAY.

LOCATION.--Water-stage recorder in NE $\frac{1}{4}$ NW $\frac{1}{4}$  sec.22, T.8 S., R.22 W., Hydrologic Unit 15070201, 1,000 ft (300 m) upstream from outlet to Gila River. Prior to July 1966 water-stage recorder and sharp-crested weir, 1 mi (1.6 km) upstream from outlet to Gila River.

PERIOD OF RECORD.--Monthly discharge October 1960 to current year.

REMARKS.--Record shows waste water from North Gila Valley Irrigation District. Prior to July 1966 record shows waste water less flow diverted for irrigation between gage and Gila River.

09529160. SOUTH GILA PUMP OUTLET CHANNEL NO. 3.

LOCATION.--Water-stage recorder in NW $\frac{1}{4}$ SE $\frac{1}{4}$  sec.22, T.8 S., R.22 W., Hydrologic Unit 15070201, 0.5 mi (0.8 km) upstream from outlet to Gila River. Prior to Aug. 1, 1965, record obtained by Badger total-flow meter about 500 ft (150 m) downstream.

PERIOD OF RECORD.--Monthly discharge January 1965 to current year.

REMARKS.--Record shows water pumped from wells in South Gila Valley Unit.

## Return surface flows below Imperial Dam, AZ-CA--Continued

## 09529200. BRUCE CHURCH DRAIN.

LOCATION.--At culvert in NW $\frac{1}{4}$ NE $\frac{1}{4}$  sec.21, T.8 S., R.22 W., Hydrologic Unit 15070201, 0.2 mi (0.3 km) upstream from outlet to Gila River.

PERIOD OF RECORD.--Monthly discharge April 1962 to current year.

REMARKS.--Record shows seepage water from parts of secs. 15, 16, and 21 (Bruce Church Ranch). Flow computed by interpolation between discharge measurements; prior to Nov. 30, 1970, flow determined from pump rating.

## 09529240. SOUTH GILA PUMP OUTLET CHANNEL NO. 2.

LOCATION.--Water-stage recorder in SW $\frac{1}{4}$ NW $\frac{1}{4}$  sec.28, T.8 S., R.22 W., Hydrologic Unit 15070201, 0.6 mi (1.0 km) upstream from outlet to Gila River; prior to Oct. 18, 1965, outlet was to Wellton-Mohawk Main Outlet Drain. Prior to Aug. 1, 1965, Sparling meter at outlet to Wellton-Mohawk Main Outlet Drain.

PERIOD OF RECORD.--Monthly discharge January 1962 to current year.

REMARKS.--Record shows water pumped from wells in South Gila Valley Unit and conveyed by concrete channel to the Gila River.

## 09529250. BRUCE CHURCH WASTEWAY.

LOCATION.--Water-stage recorder and sharp-crested weir, in SE $\frac{1}{4}$ SE $\frac{1}{4}$  sec.20, T.8 S., R.22 E., Hydrologic Unit 15070201, 500 ft (150 m) upstream from outlet to Gila River.

PERIOD OF RECORD.--Monthly discharge October 1960 to current year.

REMARKS.--Record shows waste water from North Gila Valley Irrigation District returned to Gila River.

## 09529300. WELLTON-MOHAWK MAIN OUTLET DRAIN (CONVEYANCE CHANNEL).

LOCATION.--Water-stage recorder and Parshall flume in NE $\frac{1}{4}$ NW $\frac{1}{4}$  sec.17, T.8 S., R.21 W., Hydrologic Unit 15070201, 7.8 mi (12.6 km) upstream from outlet to Gila River (M.O.D.E. 1), which is 0.6 mi (1.0 km) upstream from mouth of Gila River. Prior to Feb. 20, 1962, gage heights measured from reference point on measuring bridge. Prior to Oct. 1, 1974, gage located 1,000 ft (300 m) upstream without Parshall flume.

PERIOD OF RECORD.--Monthly discharge October 1960 to current year.

REMARKS.--Record shows water pumped from numerous wells in Wellton-Mohawk Irrigation and Drainage District to lower the water table. Flow can be discharged to the Gila River or Colorado River by any one of or combination of three outlets. These outlets are known as: M.O.D.E. 1 (release to Gila River about 8.0 mi (13 km) below station); M.O.D.E. 2 (see sta 09531800), release to Colorado River above Morelos Dam; and M.O.D.E. 3 (see sta 09531900), release to Colorado River below Morelos Dam. For water year 1977, 29 acre-ft (35,800 m<sup>3</sup>) was released to Gila River through M.O.D.E. 1.

## 09529360. SOUTH GILA PUMP OUTLET CHANNEL NO. 1.

LOCATION.--Water-stage recorder in SW $\frac{1}{4}$ NE $\frac{1}{4}$  sec.30, T.8 S., R.22 W., Hydrologic Unit 15070201, 0.2 mi (0.3 km) upstream from outlet to Gila River, which is 0.6 mi (1.0 km) upstream from mouth of Gila River. Prior to Aug. 1, 1965, Sparling flowmeter 300 feet (90 m) upstream.

PERIOD OF RECORD.--Monthly discharge August 1961 to current year.

REMARKS.--Record shows water pumped from wells in South Gila Valley Unit and conveyed by concrete channel to Gila River.

## 09529400. SOUTH GILA DRAIN NO. 2.

LOCATION.--Near center of sec.24, T.8 S., R.23 W., Hydrologic Unit 15030107, at outlet to Colorado River. Prior to Oct. 1, 1969, Sparling flowmeter at same site.

PERIOD OF RECORD.--Monthly discharge October 1960 to current year.

REMARKS.--Record shows ground-water drainage and occasional waste water from South Gila Valley Unit returned to Colorado River. There is no gage; flow record computed by interpolation between discharge measurements made monthly.

## 09529420. SOUTH GILA TERMINAL WASTEWAY.

LOCATION.--Water-stage recorder and Parshall flume in SW $\frac{1}{4}$ NW $\frac{1}{4}$  sec.36, T.8 S., R.23 W., Hydrologic Unit 15030107, 2.0 mi (3.2 km) upstream from outlet to Colorado River. Prior to Aug. 1, 1965, total-flow meter at same site.

PERIOD OF RECORD.--Monthly discharge March 1965 to current year.

REMARKS.--Record shows waste water from South Gila Canal of South Gila Valley Unit returned to Colorado River.

## 09529440. SOUTH GILA PUMP OUTLET CHANNEL NO. 4.

LOCATION.--Water-stage recorder and broad-crested weir, in NW $\frac{1}{4}$ NW $\frac{1}{4}$  sec.26, T.8 S., R.23 W., Hydrologic Unit 15030107, 1.5 mi (2.4 km) upstream from outlet to Colorado River.

PERIOD OF RECORD.--Monthly discharge July 1965 to current year.

REMARKS.--Records shows water pumped from wells in South Gila Valley Unit and conveyed by concrete-lined channel to Colorado River.

## 09529600.--RESERVATION DRAIN NO. 7.

LOCATION.--At downstream end of culvert on State Road 24 (formerly Avenue C), in NE $\frac{1}{4}$ NE $\frac{1}{4}$  sec.33, T.15 S., R.23 E., Hydrologic Unit 15030107, San Bernardino meridian, 0.5 mi (0.8 km) upstream from outlet to Reservation Main Drain. Prior to Oct. 1, 1969, nonrecording gage at same site.

PERIOD OF RECORD.--Monthly discharge March 1966 to current year.

REMARKS.--Record shows drainage water from sec.34, T.15 S., R.23 E., and is used with sta 09529700 to determine seepage from All-American Canal. There is no gage; flow record computed by interpolation between discharge measurements made monthly. Beginning June 20, 1967, Imperial Irrigation District makes discharge measurements weekly.

## DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM

Return surface flows below Imperial Dam, AZ-CA--Continued

## 09529700. RESERVATION MAIN DRAIN NO. 6.

LOCATION.--Nonrecording gage on upstream right piling of Stallnacker Road Bridge (formerly 9th Street Bridge), in SE $\frac{1}{4}$ SW $\frac{1}{4}$  sec.32, T.15 S., R.23 E., Hydrologic Unit 15030107, San Bernardino meridian.

PERIOD OF RECORD.--Monthly discharge March 1966 to current year.

REMARKS.--Record shows waste and drainage water from the Reservation Division, and is used with sta 09529600 to determine seepage from All-American Canal, which parallels drain for 4 mi (6.4 km). Flow record computed by interpolation between discharge measurements made monthly. The Imperial Irrigation District makes discharge measurements weekly.

## 09529800. RESERVATION DRAIN NO. 2.

LOCATION.--At upstream side of bridge on White Road (formerly 8th Street), in SW $\frac{1}{4}$ NW $\frac{1}{4}$  sec.6, T.16 S., R.23 E., Hydrologic Unit 15030107, San Bernardino meridian, 0.9 mi (1.4 km) upstream from outlet to Reservation Main Drain.

PERIOD OF RECORD.--Monthly discharge March 1966 to current year.

REMARKS.--Record used to compute seepage from All-American Canal in sec.31, T.15 S., R.22 E. There is no gage; flow record computed by interpolation between discharge measurements made monthly. The Imperial Irrigation District makes discharge measurements weekly.

## 09529900. RESERVATION DRAIN NO. 3.

LOCATION.--At Jackson Road Bridge (formerly 5th Street Bridge), in SE $\frac{1}{4}$ SE $\frac{1}{4}$  sec.10, T.16 S., R.22 E., Hydrologic Unit 15030107, San Bernardino meridian, 1.0 mi (1.6 km) upstream from outlet to Reservation Main Drain.

PERIOD OF RECORD.--Monthly discharge March 1966 to current year.

REMARKS.--Record used to compute seepage from All-American Canal upstream from Yuma Main Canal. There is no gage; flow record computed by interpolation between discharge measurements made monthly. Imperial Irrigation District makes discharge measurements weekly.

## 09530000. RESERVATION MAIN DRAIN NO. 4.

LOCATION.--Water-stage recorder in NW $\frac{1}{4}$ SE $\frac{1}{4}$  sec.26, T.16 S., R.22 E., Hydrologic Unit 15030107, San Bernardino meridian, 500 ft (150 m) upstream from railroad culvert. Prior to January 1937, no gage. January 1937 to Apr. 16, 1941, nonrecording gages at culvert 500 ft (150 m) downstream at different datums. April 16, 1941, to Dec. 16, 1971, water-stage recorder at culvert 500 ft (150 m) downstream. May 29, 1974, to Feb. 2, 1976, water-stage recorder with vane meter at present site. Flow enters Yuma Main Canal wasteway channel 200 ft (60 m) downstream from spillway structure. Prior to May 1955 it entered 500 ft (150 m) upstream from outlet of Yuma Main Canal wasteway in SE $\frac{1}{4}$ SW $\frac{1}{4}$  sec.26, T.16 S., R.22 E., San Bernardino meridian.

PERIOD OF RECORD.--Monthly discharge January 1913 to April 1920, October 1921 to March 1925, January 1934 to current year (calendar year discharge only 1934-36). Prior to October 1955, published as California drainage canal.

REMARKS.--Record shows waste and drainage water from area east of Yuma Main Canal on Reservation Division. Since 1939, seepage from All-American Canal has caused large increase. Flow is not included in the record of Yuma Main Canal wasteway.

## 09530200. YUMA MESA OUTLET DRAIN.

LOCATION.--Venturi meter with recorder in SE $\frac{1}{4}$ SW $\frac{1}{4}$  sec.28, T.16 S., R.22 E., Hydrologic Unit 15030107, San Bernardino meridian, in Arizona, Yuma County, 0.3 mi (0.5 km) from outlet to Colorado River.

PERIOD OF RECORD.--Monthly discharge July 1970 to current year.

REMARKS.--Record shows water pumped from wells on the Yuma Mesa and conveyed by underground conduit to Colorado River.

COOPERATION.--Records furnished by Bureau of Reclamation prior to July 21, 1972.

## 09530400. RESERVATION DRAIN NO. 11.

LOCATION.--At outlet to Drain 8-B (Araz Drain), in NE $\frac{1}{4}$ NE $\frac{1}{4}$  sec.19, T.16 S., R.22 E., Hydrologic Unit 15030107, San Bernardino meridian.

PERIOD OF RECORD.--Monthly discharge March 1966 to current year.

REMARKS.--Record shows drainage from sec.20, T.16 S., R.22 E. Flow at this station, with that at sta 09530500, is used to determine seepage from All-American Canal. There is no gage; flow record computed by interpolation between discharge measurements made monthly. Beginning June 20, 1967, Imperial Irrigation District makes discharge measurements weekly.

## 09530500. DRAIN 8-B.

LOCATION.--Enters Colorado River in NE $\frac{1}{4}$ NW $\frac{1}{4}$  sec.30, T.16 S., R.22 E., Hydrologic Unit 15030107, San Bernardino meridian, 4 mi (6.4 km) downstream from outlet of Yuma Main Canal wasteway.

PERIOD OF RECORD.--Monthly discharge March 1948 to current year. Prior to October 1955, published as Araz Drain.

REMARKS.--Record shows seepage from All-American Canal, and waste and drainage water west of Yuma Main Canal on the Reservation Division. Flow at this station, with that at sta 09530400, is used to determine seepage from All-American Canal. There is no gage, but due to fairly constant drainage, flow record is computed by interpolation between discharge measurements made monthly. Imperial Irrigation District makes discharge measurements weekly at site 1,000 ft (300 m) upstream.

## 09531800. MAIN OUTLET DRAIN EXTENSION ABOVE MORELOS DAM (M.O.D.E. 2).

LOCATION.--Water-stage recorder and Parshall flume in NW $\frac{1}{4}$ NW $\frac{1}{4}$  sec.36, T.16 S., R.21 E., Hydrologic Unit 15030107, San Bernardino meridian, at outlet to Colorado River, 1.7 mi (2.7 km) upstream from Morelos Dam.

PERIOD OF RECORD.--Monthly discharge November 1965 to current year.

REMARKS.--Record shows water conveyed to Colorado River 1.7 mi (2.7 km) above Morelos Dam, from numerous drainage wells in Wellton-Mohawk Irrigation and Drainage District. No flow since July 24, 1973. (See also stas 09529300 and 09531900.)



## Return surface flows below Imperial Dam, AZ-CA--Continued

## 09531850. COOPER WASTEWAY.

LOCATION.--Water-stage recorder and weir, in NE $\frac{1}{4}$ NE $\frac{1}{4}$  sec.28, T.8 S., R.24 W., Hydrologic Unit 15030108, 0.6 mi (1.0 km) upstream from Morelos Dam. Prior to July 14, 1971, at site 1 mi (1.6 km) downstream.

PERIOD OF RECORD.--Monthly discharge January 1934 to current year.

REMARKS.--Record shows waste water from Valley Division returned to Colorado River.

COOPERATION.--Record furnished by International Boundary and Water Commission (U.S. Section).

## 09531900. MAIN OUTLET DRAIN EXTENSION BELOW MORELOS DAM (M.O.D.E. 3).

LOCATION.--Water-stage recorder and Parshall flume in NW $\frac{1}{4}$ SE $\frac{1}{4}$  sec.28, T.8 S., R.24 W., Hydrologic Unit 15030108, at outlet to Colorado River just downstream from Morelos Dam.

PERIOD OF RECORD.--Monthly discharge November 1965 to current year.

REMARKS.--Record shows water conveyed to Colorado River below Morelos Dam, from numerous drainage wells in Wellton-Mohawk Irrigation and Drainage District. (See also stas 09529300, 09531800.)

COOPERATION.--Record furnished by International Boundary and Water Commission (U.S. Section).

## 09532500. ELEVEN MILE WASTEWAY.

LOCATION.--Water-stage recorder and regulating gate in SE $\frac{1}{4}$ NW $\frac{1}{4}$  sec.8, T.9 S., R.24 W., Hydrologic Unit 15030108, 3.2 mi (5.1 km) downstream from Morelos Dam.

PERIOD OF RECORD.--Monthly discharge January 1924 to current year.

REMARKS.--Record shows waste water from Valley Division returned to Colorado River.

COOPERATION.--Record furnished by International Boundary and Water Commission (U.S. Section).

## 09533000. TWENTY-ONE MILE WASTEWAY.

LOCATION.--Water-stage recorder and weir in NE $\frac{1}{4}$ NW $\frac{1}{4}$  sec.35, T.10 S., R.25 W., Hydrologic Unit 15030108, 0.6 mi (1.0 km) upstream from outlet to Colorado River, which is 2.4 mi (3.9 km) upstream from southerly international boundary and 2.6 mi (4.2 km) northwest of San Luis, Ariz. Prior to May 1, 1971, water-stage recorder and Parshall flume at site 200 ft (60 m) upstream.

PERIOD OF RECORD.--Monthly discharge March 1939 to current year.

REMARKS.--Record shows waste water from Valley Division returned to Colorado River.

COOPERATION.--Record furnished by International Boundary and Water Commission (U.S. Section).

## 09533300. WELLTON-MOHAWK BYPASS DRAIN AT ARIZONA-SONORA BOUNDARY.

LOCATION.--Water-stage recorder and Parshall flume in NW $\frac{1}{4}$ NE $\frac{1}{4}$  sec.10, T.11 S., R.25 W., Hydrologic Unit 15030108, on right bank 80 ft (24 m) upstream from the Arizona boundary, 550 ft (168 m) east of the thalweg of Colorado River, and 1.8 mi (2.9 km) west of San Luis, Ariz.

PERIOD OF RECORD.--Monthly discharge June 1977 to current year. (First flow June 23).

REMARKS.--Record shows water conveyed to the Santa Clara Slough, from numerous drainage wells in Wellton-Mohawk Irrigation and Drainage District. (See also stas 09529300, 09531800, 09531900.)

COOPERATION.--Record furnished by International Boundary and Water Commission (U.S. Section).

## 09534000. MAIN DRAIN.

LOCATION.--Flowmeters in discharge pipes at pumping plant in SE $\frac{1}{4}$ NE $\frac{1}{4}$  sec.11, T.11 S., R.25 W., Hydrologic Unit 15030108, 0.4 mi (0.6 km) west of San Luis, Ariz. Prior to Apr. 1, 1969, rated pumps with forebay and afterbay gages to measure head.

PERIOD OF RECORD.--Monthly discharge January 1919 to current year.

REMARKS.--Record shows flow which consists mostly of drainage water from the Valley Division which is pumped across the Arizona-Sonora boundary for use in Mexico. Flowmeters checked by discharge measurements made by International Boundary and Water Commission (U.S. Section).

COOPERATION.--Record furnished by International Boundary and Water Commission (U.S. Section).

## 09534300. WEST MAIN CANAL WASTEWAY.

LOCATION.--Water-stage recorder and weir, in NW $\frac{1}{4}$ NE $\frac{1}{4}$  sec.11, T.11 S., R.25 W., Hydrologic Unit 15030108, 0.3 mi (0.5 km) upstream from outlet to Main drain, and 0.4 mi (0.6 km) west of San Luis, Ariz. Prior to Aug. 1, 1975, at site 150 ft (46 m) upstream from outlet to Main drain.

PERIOD OF RECORD.--Monthly discharge February 1971 to current year.

REMARKS.--Record shows waste water from Valley Division which is discharged across the Arizona-Sonora boundary for use in Mexico.

COOPERATION.--Record furnished by International Boundary and Water Commission (U.S. Section).

## 09534500. EAST MAIN CANAL WASTEWAY.

LOCATION.--Water-stage recorder and weir, in NW $\frac{1}{4}$ SW $\frac{1}{4}$  sec.12, T.11 S., R.25 W., Hydrologic Unit 15030108, 0.3 mi (0.5 km) upstream from outlet to Main drain, and 0.2 mi (0.3 km) west of San Luis, Ariz.

PERIOD OF RECORD.--Monthly discharge January 1924 to June 1928, January 1932 to December 1933, April 1935 to current year. Calendar year estimates 1934 and 1935, published in WSP 1313.

REMARKS.--Record shows amount of unused water at the extreme end of the Valley Division which is discharged across the Arizona-Sonora boundary for use in Mexico.

COOPERATION.--Record furnished by International Boundary and Water Commission (U.S. Section).

## DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM

Return surface flows below Imperial Dam, AZ-CA--Continued

MONTHLY RETURN FLOWS, IN ACRE-FEET, WATER YEAR OCTOBER 1976 to SEPTEMBER 1977

Month	Mittry Lake Outlet Channel 09527900	Laguna Canal wasteway 09528600	Levee Canal wasteway 09528800	North Gila Drain No. 1 09529000	North Gila Drain No. 3 09529050	Fortuna wasteway 09529100
October .....	764	33	219	507	0	45
November .....	601	16	151	432	0	45
December .....	700	7.8	197	336	0	58
CAL YR 1976 .....	9,950	72	2,050	5,670	0.6	488
January .....	787	8.2	99	268	0	43
February .....	702	2.7	149	393	0	42
March .....	685	0	153	345	0	46
April .....	605	4.1	143	273	0	62
May .....	551	0	141	348	0	92
June .....	405	0	187	351	0	78
July .....	592	0	267	340	0	101
August .....	789	7.9	185	342	0	83
September .....	622	6.8	137	502	0	13
WTR YR 1977 .....	7,800	87	2,030	4,440	0	707

Month	North Gila Main Canal wasteway 09529150	South Gila Pump Outlet Channel No. 3 09529160	Bruce Church Drain 09529200	South Gila Pump Outlet Channel No. 2 09529240	Bruce Church wasteway 09529250
October .....	66	3.5	52	201	8.0
November .....	72	7.4	41	543	22
December .....	51	7.1	14	1,950	6.5
CAL YR 1976.....	641	6,580	520	17,510	104
January .....	83	9.1	.4	1,310	1.5
February .....	80	813	18	1,490	1.7
March .....	69	1,380	35	1,720	2.7
April .....	70	1,810	36	2,130	1.0
May .....	66	1.5	33	1,730	2.1
June .....	82	677	33	1,380	8.5
July .....	161	1,410	28	2,080	22
August .....	130	1,040	12	1,740	8.8
September .....	119	1.8	.2	1,160	0
WTR YR 1977 .....	1,050	7,160	303	17,430	85

Month	Wellton-Mohawk Main Outlet Drain 09529300	South Gila Pump Outlet Channel No. 1 09529360	South Gila Drain No. 2 09529400	South Gila Terminal wasteway 09529420	South Gila Pump Outlet Channel No. 4 09529440
October .....	18,880	2,170	35	32	0.6
November .....	17,910	2,190	36	33	1.3
December .....	18,850	2,330	35	13	273
CAL YR 1976 .....	203,200	29,490	208	467	1,560
January .....	18,520	2,130	26	17	40
February .....	816,710	2,310	22	22	135
March .....	10,580	2,510	45	16	3.8
April .....	17,540	2,580	54	53	235
May .....	16,870	2,590	51	39	3.6
June .....	17,600	2,180	48	65	410
July .....	18,080	2,210	40	62	956
August .....	17,820	2,430	22	69	240
September .....	17,380	2,520	5	65	2.4
WTR YR 1977 .....	206,700	28,130	419	487	2,300

NOTE.--Yearly totals given above have been computed from total cfs-days and may differ slightly from the summation of monthly total acre-feet on occasion.

Return surface flows below Imperial Dam, AZ-CA--Continued

MONTHLY RETURN FLOWS, IN ACRE-FEET, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

Month	Reservation Drain No. 7 09529600	Reservation Main Drain No. 6 09529700	Reservation Drain No. 2 09529800	Reservation Drain No. 3 09529900	Reservation Main Drain No. 4 09530000	Yuma Mesa Outlet Drain 09530200
October.....	112	1,100	20	305	3,730	4,180
November.....	100	952	24	249	3,370	3,860
December.....	68	938	8.1	206	3,180	4,320
CAL YR 1976 .....	1,180	12,510	187	3,150	43,210	46,990
January.....	44	734	6.1	145	2,790	4,370
February.....	53	742	5.6	167	2,650	3,820
March.....	68	879	6.1	215	3,000	4,140
April.....	85	912	6.0	226	2,890	3,850
May.....	106	966	4.0	239	3,220	3,650
June.....	106	952	4.6	242	3,240	3,880
July.....	130	1,120	6.1	321	3,570	3,660
August.....	112	1,160	6.1	299	3,210	2,540
September.....	71	982	6.0	244	2,990	2,830
WTR YR 1977 .....	1,060	11,440	103	2,860	37,840	45,090

Month	Reservation Drain No. 11 09530400	Drain 8-B 09530500	M.O.D.E. 2 (above Morelos Dam) 09531800	Cooper wasteway 09531850	M.O.D.E. 3 (below Morelos Dam) 09531900	Eleven Mile wasteway 09532500
October.....	52	224	0	91	19,200	107
November.....	36	211	0	108	18,220	115
December.....	27	141	0	73	19,040	218
CAL YR 1976 .....	575	2,470	0	964	205,400	1,227
January.....	13	93	0	65	18,600	0
February.....	11	76	0	89	16,510	205
March.....	11	104	0	91	10,660	223
April.....	6.0	100	0	71	17,950	212
May.....	11	88	0	104	16,880	18
June.....	18	104	0	84	16,170	71
July.....	14	161	0	72	1,300	17
August.....	6.5	154	0	70	223	193
September.....	6.0	117	0	14	420	16
WTR YR 1977 .....	212	1,570	0	932	155,200	1,400

Month	Twenty-One Mile wasteway 09533000	Wellton-Mohawk Bypass Drain 09533300	Main Drain 09534000	West Main Canal wasteway 09534300	East Main Canal wasteway 09534500
October.....	2	--	8,620	606	644
November.....	0	--	7,250	429	704
December.....	0	--	7,400	610	482
CAL YR 1976 .....	30	--	93,850	6,230	6,750
January.....	0	--	6,200	523	516
February.....	0	--	6,520	681	461
March.....	0	--	7,340	849	601
April.....	0	--	7,190	539	584
May.....	0	--	7,330	148	391
June.....	0	1,610	6,750	107	371
July.....	0	17,020	7,400	132	319
August.....	0	18,200	7,780	98	290
September.....	0	17,420	7,280	208	524
WTR YR 1977 .....	32	54,250	87,060	4,930	5,890

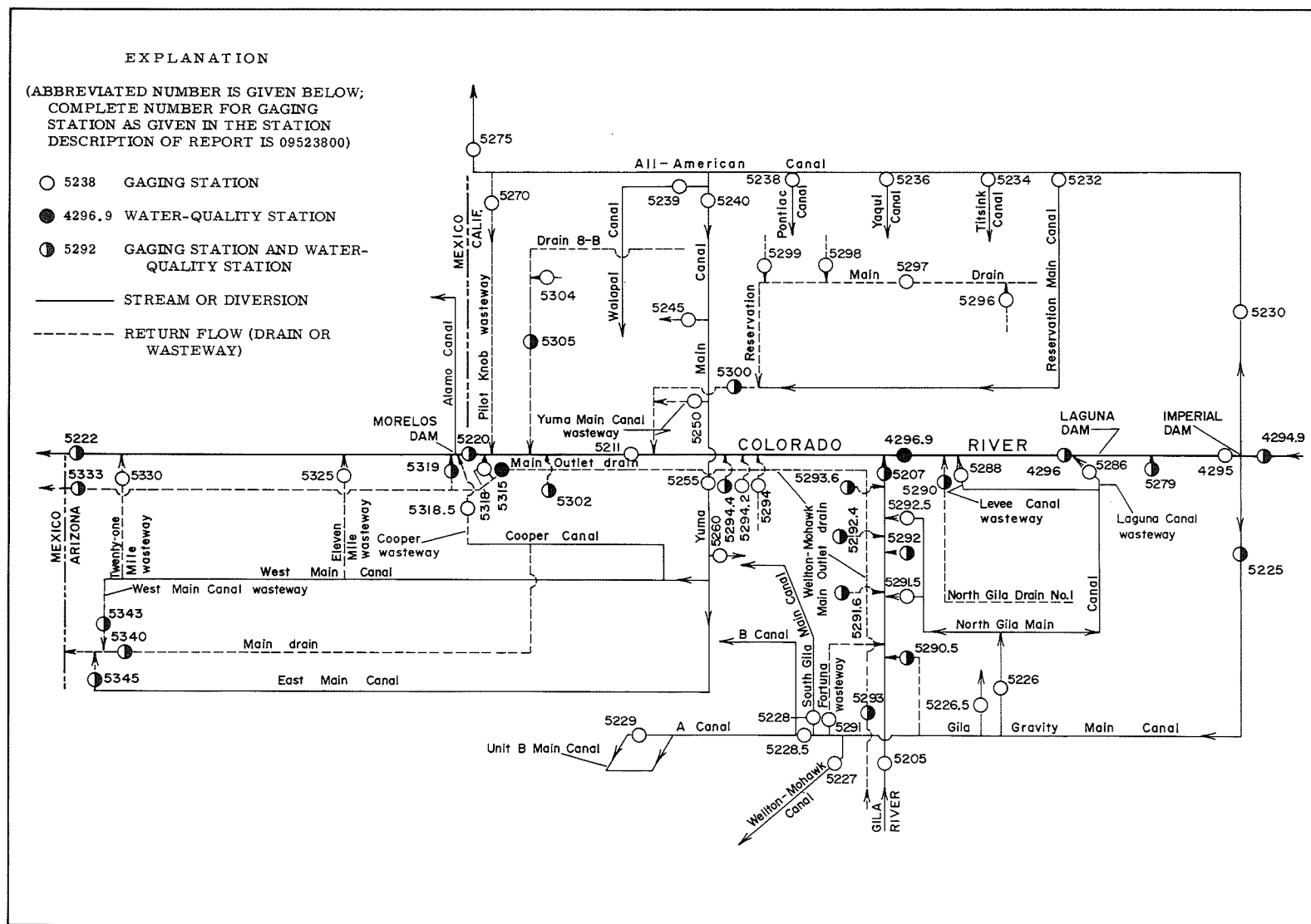


FIGURE 4.--SCHEMATIC DIAGRAM SHOWING GAGING STATIONS AND WATER-QUALITY STATIONS ON STREAMS, DIVERSIONS, AND RETURN FLOWS BETWEEN IMPERIAL DAM AND THE SOUTHERLY INTERNATIONAL BOUNDARY.

## 10250800 DARWIN CREEK NEAR DARWIN, CA

LOCATION.--Lat 36°19'14", long 117°31'23", in NW¼SE¼SW¼ sec.34, T.18 S., R.41 E., Inyo County, on left bank 510 ft (155 m) downstream from Darwin Falls, 1.6 mi (2.6 km) upstream from unnamed tributary, and 5.2 mi (8.4 km) northeast of Darwin.

DRAINAGE AREA.--173 mi<sup>2</sup> (448 km<sup>2</sup>).

PERIOD OF RECORD.--October 1962 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 2,640 ft (805 m), from topographic map. Prior to Aug. 6, 1970, at site 190 ft (58 m) downstream at same datum.

REMARKS.--Records good. No regulation above station. Town of Darwin pumps water above station for municipal supply.

AVERAGE DISCHARGE.--15 years, 0.43 ft<sup>3</sup>/s (0.012 m<sup>3</sup>/s), 312 acre-ft/yr (385,000 m<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,400 ft<sup>3</sup>/s (125 m<sup>3</sup>/s) Jan. 25, 1969, gage height, 8.40 ft (2.560 m), at site then in use, from floodmarks, on basis of slope-conveyance measurement of maximum flow; minimum daily, 0.05 ft<sup>3</sup>/s (0.001 m<sup>3</sup>/s) Aug. 30 to Sept. 4, 1969.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum gage height, 20.42 ft (6.224 m), present site, from floodmarks, date and discharge unknown.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 0.85 ft<sup>3</sup>/s (0.024 m<sup>3</sup>/s) May 24, gage height, 3.03 ft (0.924 m), no peak above base of 10 ft<sup>3</sup>/s (0.283 m<sup>3</sup>/s); minimum daily, 0.08 ft<sup>3</sup>/s (0.002 m<sup>3</sup>/s) July 26.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.40	.36	.33	.33	.30	.24	.24	.27	.27	.13	.09	.19
2	.40	.36	.33	.36	.30	.24	.27	.27	.24	.13	.09	.19
3	.36	.33	.33	.36	.30	.27	.27	.24	.24	.13	.09	.19
4	.36	.33	.33	.36	.30	.27	.24	.24	.21	.13	.10	.17
5	.36	.33	.33	.36	.30	.27	.21	.24	.21	.13	.10	.17
6	.36	.33	.40	.36	.30	.27	.21	.27	.19	.12	.10	.17
7	.33	.33	.40	.36	.30	.27	.21	.30	.17	.10	.12	.17
8	.33	.36	.36	.36	.30	.27	.21	.48	.24	.09	.13	.17
9	.33	.36	.36	.36	.30	.24	.24	.40	.21	.09	.15	.17
10	.33	.36	.33	.36	.27	.24	.21	.36	.21	.09	.13	.17
11	.30	.36	.33	.36	.27	.24	.21	.33	.19	.10	.13	.17
12	.30	.36	.33	.36	.27	.24	.19	.33	.17	.09	.13	.19
13	.30	.36	.33	.36	.27	.24	.17	.36	.17	.09	.13	.17
14	.30	.33	.33	.36	.27	.24	.17	.33	.17	.09	.13	.19
15	.33	.33	.33	.36	.27	.24	.15	.33	.17	.09	.12	.19
16	.33	.33	.33	.36	.27	.21	.17	.33	.17	.10	.15	.21
17	.36	.33	.33	.36	.27	.21	.15	.36	.17	.09	.21	.21
18	.36	.33	.33	.36	.27	.21	.15	.36	.17	.09	.36	.21
19	.36	.33	.33	.36	.24	.19	.15	.33	.17	.10	.27	.21
20	.40	.36	.33	.36	.21	.19	.15	.33	.15	.10	.19	.24
21	.40	.36	.33	.36	.21	.19	.15	.36	.13	.10	.15	.24
22	.40	.36	.33	.36	.21	.19	.15	.36	.19	.10	.15	.24
23	.40	.36	.33	.36	.21	.19	.15	.40	.15	.10	.15	.24
24	.40	.36	.33	.36	.21	.21	.15	.44	.15	.10	.15	.27
25	.40	.33	.33	.36	.24	.21	.17	.44	.15	.09	.17	.27
26	.40	.33	.33	.36	.24	.24	.19	.40	.15	.08	.19	.30
27	.36	.33	.33	.36	.24	.24	.21	.33	.15	.09	.19	.30
28	.36	.33	.33	.36	.24	.24	.21	.33	.15	.12	.19	.33
29	.36	.33	.33	.36	---	.21	.24	.36	.17	.12	.19	.33
30	.36	.33	.33	.33	---	.24	.27	.36	.15	.10	.17	.33
31	.36	---	.33	.33	---	.24	---	.30	---	.10	.19	---
TOTAL	11.10	10.29	10.43	11.07	7.38	7.21	5.86	10.54	5.43	3.18	4.81	6.60
MEAN	.36	.34	.34	.36	.26	.23	.20	.34	.18	.10	.16	.22
MAX	.40	.36	.40	.36	.30	.27	.27	.48	.27	.13	.36	.33
MIN	.30	.33	.33	.33	.21	.19	.15	.24	.13	.08	.09	.17
AC-FT	22	20	21	22	15	14	12	21	11	6.3	9.5	13
CAL YR 1976	TOTAL	107.30	MEAN .29	MAX 5.9	MIN .18	AC-FT 213						
WTR YR 1977	TOTAL	93.90	MEAN .26	MAX .48	MIN .08	AC-FT 186						

## DEATH VALLEY

10251100 SALT CREEK NEAR STOVEPIPE WELLS, CA

LOCATION.--Lat 36°35'58", long 117°00'46", in NE¼ sec.6, T.16 S., R.46 E., Inyo County, Death Valley National Monument, on left bank 3.0 mi (4.8 km) southeast of intersection of State Highway 190 and Stovepipe Wells Road, and 7.4 mi (11.9 km) east of Stovepipe Wells Hotel.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--February 1974 to current year.

GAGE.--Water-stage recorder and Parshall flume. Altitude of gage is -180 ft (-55 m), from topographic map.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 363 ft<sup>3</sup>/s (10.3 m<sup>3</sup>/s) Feb. 9, 1976, gage height, 4.81 ft (1.466 m) based on slope-conveyance measurement of peak flow, minimum daily, 0.06 ft<sup>3</sup>/s (0.002 m<sup>3</sup>/s) June 16, 24, 25, 1974, Sept. 15, 1976.

EXTREMES (FOR CURRENT YEAR).--Maximum discharge, 1.9 ft<sup>3</sup>/s (0.054 m<sup>3</sup>/s) May 9, gage height, 1.94 ft (0.591 m), no peaks above base of 5.0 ft<sup>3</sup>/s (0.14 m<sup>3</sup>/s); minimum daily, 0.10 ft<sup>3</sup>/s (0.003 m<sup>3</sup>/s) July 18-20, Aug. 2-7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.18	.24	.44	.58	.66	.65	.64	.35	.29	.13	.11	.15
2	.40	.25	.46	.58	.65	.62	.60	.36	.26	.12	.10	.15
3	.11	.25	.46	.69	.66	.65	.58	.36	.25	.11	.10	.15
4	.11	.27	.48	.60	.67	.63	.61	.35	.25	.11	.10	.15
5	.12	.27	.48	.60	.67	.63	.62	.34	.24	.12	.10	.15
6	.13	.28	.46	.60	.68	.66	.60	.31	.24	.12	.10	.15
7	.12	.28	.48	.58	.68	.68	.58	.37	.23	.13	.10	.13
8	.13	.28	.48	.58	.69	.67	.50	.58	.22	.12	.11	.13
9	.13	.29	.50	.56	.69	.67	.50	1.3	.21	.12	.12	.12
10	.13	.30	.48	.58	.68	.56	.52	.66	.21	.13	.12	.12
11	.13	.30	.50	.58	.68	.60	.50	.56	.21	.13	.12	.13
12	.12	.32	.50	.60	.67	.66	.48	.71	.20	.12	.12	.13
13	.13	.32	.50	.60	.68	.64	.52	.82	.18	.12	.12	.13
14	.14	.33	.52	.60	.68	.62	.48	.64	.18	.12	.12	.13
15	.15	.32	.52	.60	.68	.63	.48	.55	.19	.12	.12	.13
16	.15	.33	.52	.60	.68	.66	.48	.48	.18	.12	.20	.12
17	.15	.33	.52	.60	.69	.66	.48	.47	.17	.12	.30	.13
18	.15	.34	.52	.60	.69	.63	.44	.47	.17	.10	.20	.14
19	.16	.35	.52	.62	.68	.66	.41	.45	.18	.10	.16	.13
20	.17	.36	.52	.62	.69	.66	.43	.45	.18	.10	.15	.13
21	.18	.37	.54	.67	.70	.65	.44	.44	.17	.11	.15	.14
22	.18	.37	.54	.67	.62	.66	.46	.40	.15	.11	.15	.14
23	.19	.37	.54	.65	.65	.63	.45	.38	.14	.11	.15	.12
24	.20	.37	.54	.62	.65	.60	.44	.42	.15	.12	.15	.14
25	.20	.39	.54	.65	.66	.67	.41	.44	.14	.12	.15	.14
26	.20	.38	.56	.68	.65	.67	.39	.41	.14	.12	.15	.13
27	.20	.38	.56	.67	.67	.64	.40	.38	.13	.12	.15	.14
28	.22	.39	.56	.67	.68	.60	.38	.36	.13	.12	.15	.13
29	.23	.41	.58	.67	---	.60	.38	.35	.14	.11	.15	.14
30	.23	.43	.58	.65	---	.64	.38	.33	.14	.11	.15	.13
31	.24	---	.60	.66	---	.63	---	.31	---	.12	.15	---
TOTAL	5.28	9.87	16.00	19.23	18.83	19.83	14.58	14.80	5.67	3.63	4.32	4.05
MEAN	.17	.33	.52	.62	.67	.64	.49	.48	.19	.12	.14	.14
MAX	.40	.43	.60	.69	.70	.68	.64	1.3	.29	.13	.30	.15
MIN	.11	.24	.44	.56	.62	.56	.38	.31	.13	.10	.10	.12
AC-FT	10	20	32	38	37	39	29	29	11	7.2	8.6	8.0
CAL YR 1976	TOTAL 184.20	MEAN .50	MAX	42	MIN .06	AC-FT 365						
WTR YR 1977	TOTAL 136.09	MEAN .37	MAX	1.3	MIN .10	AC-FT 270						

## 10251300 AMARGOSA RIVER AT TECOPA, CA

LOCATION.--Lat 35°50'53", long 116°13'43", in NW¼NW¼SE¼ sec.9, T.20 N., R.7 E., Inyo County, on right bank 20 ft (6 m) upstream from county road, and 0.2 mi (0.3 km) west of Tecopa.

PERIOD OF RECORD.--October 1961 to current year.

GAGE.--Water-stage recorder and culvert control. Altitude of gage is 1,310 ft (399 m), from topographic map.

REMARKS.--Records fair. No regulation. City of Tecopa pumps water for municipal use upstream.

AVERAGE DISCHARGE.--16 years, 3.13 ft<sup>3</sup>/s (0.089 m<sup>3</sup>/s), 2,270 acre-ft/yr (2.80 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,000 ft<sup>3</sup>/s (142 m<sup>3</sup>/s), estimated, Feb. 26, 1969, gage height, 18.34 ft (5.590 m), from floodmark; no flow at times in most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 15 ft<sup>3</sup>/s (0.42 m<sup>3</sup>/s) and maximum (\*), from rating curve extended above 32 ft<sup>3</sup>/s (0.91 m<sup>3</sup>/s) on basis of slope-area measurement at recorded gage height 14.01 ft (4.27 m), outside high water mark 13.9 ft (4.24 m);

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)	Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)
Oct. 2	0630	*2600 73.6	14.01 4.270	May 8	0830	96 2.72	5.02 1.530
Jan. 3	0530	18 0.51	4.05 1.234	Aug. 17	0700	1680 47.6	13.82 4.212
Mar. 2	1615	16 0.45	4.03 1.228				

Minimum daily discharge, no flow for many days, July to September.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	74	.43	.86	2.8	1.2	.76	.47	.32	.14	.02	0	.03
2	757	.43	.84	2.4	1.6	4.7	.48	.30	.13	0	0	.02
3	130	.48	1.0	11	1.2	2.5	.49	.23	.14	0	0	.02
4	145	.47	1.1	5.4	1.1	.99	.50	.22	.14	0	0	.02
5	50	.48	2.5	3.7	1.1	.83	.51	.18	.15	0	0	.02
6	25	.46	1.4	4.0	1.2	.27	.52	.24	.16	0	0	.01
7	13	.47	.75	3.0	1.4	.21	.90	.40	.10	0	0	.01
8	6.1	.49	1.0	3.0	1.4	.21	.69	48	.10	0	0	0
9	2.0	.51	1.5	1.4	1.4	.26	.46	22	.12	0	0	0
10	.82	.56	2.5	1.1	2.3	.37	.46	10	.12	0	0	0
11	.53	.63	.59	1.0	1.1	.23	.51	3.5	.15	0	0	0
12	.70	.77	.63	1.0	.71	.13	.59	3.1	.09	0	0	0
13	.14	.79	1.0	1.0	.70	.14	.58	2.1	.08	0	0	0
14	.15	.59	1.0	1.0	.80	.17	.65	.99	.09	0	0	0
15	.19	1.2	1.0	1.0	.77	.18	.48	.47	.10	0	0	0
16	.27	1.1	1.1	1.0	.71	.20	.39	.61	.14	0	0	0
17	.37	.59	1.4	1.0	.80	.22	.41	.92	.12	0	697	0
18	.40	.56	1.2	1.0	.84	.24	.44	.57	.10	0	650	0
19	.39	.63	1.3	1.0	.77	.26	.43	.56	.08	0	214	0
20	.37	.66	1.4	1.0	.75	.28	.37	.49	.06	0	82	0
21	.49	.71	1.1	5.0	.64	.30	.39	.35	.04	0	39	0
22	.55	.75	.79	4.0	.43	.32	.48	.25	.11	0	15	0
23	.56	.80	.88	3.0	.49	.34	.51	.35	.08	0	3.8	0
24	.61	.86	1.1	2.5	.48	.36	.44	.55	.07	0	.58	0
25	.63	.84	1.6	2.4	.60	.38	.40	.52	.08	0	.13	0
26	.85	1.1	1.5	2.0	.45	.40	.40	.40	.07	0	.06	0
27	.20	2.5	1.5	1.7	.56	.42	.38	.30	.06	0	.04	0
28	.15	.45	1.4	1.8	.59	.43	.41	.25	.04	0	.09	0
29	.20	.55	1.8	1.8	---	.44	.38	.22	.04	0	.05	0
30	.28	.77	2.5	2.4	---	.45	.34	.22	.05	0	.06	0
31	.38	---	3.7	1.4	---	.46	---	.18	---	0	.04	---
TOTAL	1211.33	21.63	41.94	75.8	26.09	17.45	14.46	98.79	2.95	.02	1701.85	.13
MEAN	39.1	.72	1.35	2.45	.93	.56	.48	3.19	.098	.0006	54.9	.004
MAX	757	2.5	3.7	11	2.3	4.7	.90	48	.16	.02	697	.03
MIN	.14	.43	.59	1.0	.43	.13	.34	.18	.04	0	0	0
AC-FT	2400	43	83	150	52	35	29	196	5.9	.04	3380	.3
CAL YR 1976	TOTAL	4846.15	MEAN 13.2	MAX 757	MIN .01	AC-FT 9610						
WTR YR 1977	TOTAL	3212.44	MEAN 8.80	MAX 757	MIN 0	AC-FT 6370						

## BRISTOL LAKE BASIN

10252550 CARUTHERS CREEK NEAR IVANPAH, CA

LOCATION.--Lat 35°14'33", long 115°17'58", in NW¼NW¼NE¼ sec.6, T.13 N., R.16 E., San Bernardino County, on left bank 6.6 mi (10.6 km) south of Ivanpah.

DRAINAGE AREA.--1.13 mi<sup>2</sup> (2.93 km<sup>2</sup>).

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

GAGE.--Water-stage recorder. Altitude of gage is 5,640 ft (1,719 m), from topographic map.

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

AVERAGE DISCHARGE.--14 years, 0.086 ft<sup>3</sup>/s (0.002 m<sup>3</sup>/s), 62 acre-ft/yr (76,450 m<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 583 ft<sup>3</sup>/s (16.5 m<sup>3</sup>/s) Oct. 1, 1976, gage height, 4.95 ft (1.509 m), on basis of slope-conveyance measurement of 518 ft<sup>3</sup>/s (14.7 m<sup>3</sup>/s); no flow most of each year.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 10 ft<sup>3</sup>/s (0.283 m<sup>3</sup>/s) and maximum (\*) on basis of slope-conveyance study of 518 ft<sup>3</sup>/s (14.7 m<sup>3</sup>/s):

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)		Gage height (ft) (m)	
Oct. 1	2300	*583	16.5	4.95	1.509
Aug. 17	1400	63	1.78	2.47	0.753

Minimum daily discharge, no flow most of year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18					0	.10			0	0	
2	9.1					0	.78			0	0	
3	2.0					0	0			0	0	
4	4.1					0	0			0	0	
5	6.2					0	0			0	0	
6	6.5					0	0			0	0	
7	5.7					0	0			0	0	
8	5.2					0	0			0	0	
9	4.7					0	0			0	0	
10	4.3					0	0			0	0	
11	3.7					0	0			0		.06
12	3.1					0	0			0	0	
13	2.1					0	0			0	0	
14	1.5					0	0			0	0	
15	1.0					0	0			0	0	
16	.50					0	0			0	0	
17	.10					0	0			18	0	
18	0					0	0			.92	0	
19	0					0	0			.31	0	
20	0					0	0			.04	0	
21	0					0	0			.01	0	
22	0					0	0			0	0	
23	2.2					0	0			0	0	
24	1.8					0	0			0	0	
25	1.6					0	0			0	0	
26	1.5					1.6	0			0	0	
27	1.2					2.4	0			0	0	
28	.80					1.8	0			0	0	
29	.10					1.5	0			0	0	
30	0					.81	0			0	0	
31	0	---			---	.04	---		---	0	---	
TOTAL	87.00	0	0	0	0	8.15	.88	0	0	0	19.28	.06
MEAN	2.81	0	0	0	0	.26	.029	0	0	0	.62	.002
MAX	18	0	0	0	0	2.4	.78	0	0	0	18	.06
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	173	0	0	0	0	16	1.7	0	0	0	38	.1
CAL YR 1976	TOTAL	116.87	MEAN	.32	MAX	18	MIN	0	AC-FT	232		
WTR YR 1977	TOTAL	115.37	MEAN	.32	MAX	18	MIN	0	AC-FT	229		



## SALTON SEA BASIN

133

10254005 SALTON SEA NEAR WESTMORLAND, CA

LOCATION.--Lat 33°11'37", long 115°49'54", in NE¼SE¼SW¼ sec.21, T.11 S., R.11 E., Imperial County, at outer end of third mooring pier from western shore at Sandy Beach, and 15.5 mi (24.9 km) northwest of Westmorland.

DRAINAGE AREA.--8,360 mi<sup>2</sup> (21,650 km<sup>2</sup>), approximately.

PERIOD OF RECORD.--November 1904 to current year. Records prior to 1932 are published in WSP 735.

GAGE.--Water-stage recorder. Datum of gage is 250.00 ft (76.2 m) below mean sea level; gage readings have been converted to elevations below mean sea level. See WSP 1734 for history of changes prior to Mar. 2, 1956.

REMARKS.--Bottom of sea is 277.7 ft (84.64 m) below mean sea level. See WSP 300, 735, and 918 for condensed history of Salton Sea.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation, 195.9 ft (59.71 m) below mean sea level in February and March 1907; minimum since 1906, 251.6 ft (76.69 m) below mean sea level in November 1924.

EXTREMES FOR CURRENT YEAR.--Maximum elevation, 228.6 ft (69.68 m) below mean sea level, May 5; minimum, 229.5 ft (69.95 m) below mean sea level many days October through December.

MEAN DAILY MONTHEND ELEVATIONS, IN FEET, BELOW MEAN SEA LEVEL, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

Date	Elevation (feet)	Date	Elevation (feet)
Sept. 30.....	229.5	Apr. 30.....	228.7
Oct. 31.....	229.5	May 31.....	228.8
Nov. 30.....	229.5	June 30.....	*229.0
Dec. 31.....	229.4	July 31.....	*229.1
Jan. 31.....	229.1	Aug. 31.....	*229.2
Feb. 29.....	229.0	Sept. 30.....	*229.1
Mar. 31.....	228.9		

\*Estimated.

## INFLOW TO SALTON SEA

Salton Sea, located near the northeast corner of Imperial County, is a closed basin consisting of 8,360 mi<sup>2</sup> (21,650 km<sup>2</sup>).

The following table shows monthly and annual inflow, in acre-feet, for the water year October 1976 to September 1977 and the calendar year January to December 1976. Inflow from Imperial Valley is the sum of flows in Alamo River (station 10254730), New River (station 10255550), 33 drains and wasteways, and since October 1967 San Felipe Creek (station 10255885). Since October 1967 inflow from Coachella Valley is the sum of flows in Whitewater River (station 10259540), Salt Creek (station 10254050), and 21 drains. Flow in Whitewater River and Salt Creek was measured at gaging stations. Discharge from the drains was furnished by Coachella County Water District (see Salton Sea basin for other flows to the sea). Table also shows amount of flow in Alamo and New Rivers contributed by Mexico as furnished by Imperial Irrigation District. Ungaged drains and natural runoff also contribute inflow to the sea.

	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
Inflow from												
Imperial Valley	96100	73710	78000	73860	78850	102300	116300	106500	90650	101500	165700	83540
Coachella Valley	14300	12200	13010	13680	12130	14290	14160	14820	12930	12500	21550	13940
Total cal yr 1976		1,419,300	ac-ft									
Total wtr yr 1977		1,336,500	ac-ft									

## FLOW FROM MEXICO AT INTERNATIONAL BOUNDARY

	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
Alamo River	63	62	83	123	119	151	149	143	104	92	124	102
New River	6910	7920	9200	11450	8790	10320	10950	9630	7050	7150	11720	7610
Cal yr 1976: Alamo River			1,070	ac-ft								
Cal yr 1976: New River			102,900	ac-ft								
Wtr yr 1977:							1,320	ac-ft				
Wtr yr 1977:							108,700	ac-ft				

## SALTON SEA BASIN

10254050 SALT CREEK NEAR MECCA, CA

LOCATION.--Lat 33°26'49", long 115°50'33", in NE¼SE¼SW¼ sec.28, T.8 S., R.11 E., Riverside County, on pier of Southern Pacific Railroad bridge, 0.3 mi (0.5 km) upstream from mouth, and 16 mi (26 km) southeast of Mecca.

DRAINAGE AREA.--269 mi<sup>2</sup> (697 km<sup>2</sup>).

PERIOD OF RECORD.--January 1961 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 230 ft (70.1 m) below mean sea level (from topographic map).

REMARKS.--Records fair. No regulation or diversion above station. Flow sustained by irrigation seepage.

AVERAGE DISCHARGE.--16 years, 6.63 ft<sup>3</sup>/s (0.188 m<sup>3</sup>/s), 4,800 acre-ft/yr (5.92 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,900 ft<sup>3</sup>/s (280 m<sup>3</sup>/s) Sept. 24, 1976, gage height, 14.3 ft (4.359 m), from rating curve extended above 20 ft<sup>3</sup>/s (0.57 m<sup>3</sup>/s) on basis of contracted-opening measurement at gage height 14.3 ft (4.359 m); minimum daily, 0.40 ft<sup>3</sup>/s (0.01 m<sup>3</sup>/s) Aug. 10, 1966.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 705 ft<sup>3</sup>/s (20.0 m<sup>3</sup>/s) Aug. 16, gage height, 8.47 ft (2.582 m), from rating curve extended above 20 ft<sup>3</sup>/s (0.57 m<sup>3</sup>/s) on basis of contracted-opening measurement of 9,900 ft<sup>3</sup>/s (280 m<sup>3</sup>/s); minimum daily, 0.47 ft<sup>3</sup>/s (0.013 m<sup>3</sup>/s) Sept. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	7.2	9.1	12	11	38	5.5	3.5	6.7	2.2	3.1	9.0
2	10	7.0	9.1	32	11	19	5.5	3.3	4.0	2.4	3.1	9.0
3	9.5	6.8	9.1	35	12	11	5.8	3.3	3.5	2.4	3.1	9.0
4	9.5	6.8	9.5	28	11	10	5.8	3.5	3.3	2.6	3.3	9.0
5	9.5	6.6	9.5	26	11	9.5	5.8	3.3	3.1	2.4	3.1	.47
6	9.0	6.6	9.5	28	11	9.1	5.5	3.5	2.9	2.6	3.1	29
7	9.0	6.6	24	30	13	9.1	5.5	3.3	2.8	2.4	3.1	17
8	9.0	6.4	16	28	13	9.5	5.2	3.3	2.9	2.6	3.1	8.4
9	9.0	6.4	12	27	10	10	5.2	3.8	3.1	2.6	3.3	7.7
10	8.5	6.4	11	26	10	10	5.0	3.5	2.9	2.6	3.3	7.7
11	8.5	6.4	10	32	10	8.0	5.0	3.5	3.3	2.6	3.3	7.7
12	8.5	16	10	28	9.5	8.0	5.0	3.8	5.0	2.6	3.3	8.0
13	8.5	22	10	21	9.5	8.0	5.0	3.8	15	2.6	3.5	8.0
14	8.5	12	9.5	19	9.5	8.7	4.7	3.8	6.4	2.8	3.5	9.1
15	8.4	9.5	9.5	17	9.5	18	4.7	3.5	3.3	2.6	3.5	8.0
16	8.4	9.0	13	14	9.5	10	4.5	3.5	3.3	2.6	33	8.0
17	8.4	8.5	14	13	9.5	7.7	4.2	3.3	2.8	2.6	129	8.4
18	8.4	8.0	11	13	9.5	7.3	4.2	3.1	2.8	2.6	20	8.4
19	9.5	8.0	10	12	9.5	7.0	3.8	2.9	2.6	2.6	15	10
20	9.5	8.0	10	12	9.0	7.0	3.5	2.9	2.6	2.8	14	24
21	8.0	8.0	9.5	12	9.0	6.7	3.3	2.9	2.4	2.8	13	12
22	10	14	9.5	12	9.0	6.7	3.5	3.1	2.6	2.8	12	8.7
23	19	13	9.5	12	9.0	6.7	3.5	3.1	2.6	2.6	12	8.4
24	9.9	11	9.5	12	9.0	6.4	3.8	3.3	2.6	2.8	12	8.4
25	8.7	10	9.5	12	9.0	6.4	3.8	3.3	3.1	2.8	12	8.4
26	19	9.5	9.5	12	9.0	6.1	3.5	3.3	2.8	2.8	11	8.4
27	15	9.5	9.5	12	13	6.7	3.5	3.1	2.6	2.8	10	8.0
28	10	9.1	9.5	12	16	7.0	3.5	3.8	2.6	2.9	10	8.0
29	8.7	9.1	9.5	12	---	6.4	3.5	3.8	2.4	2.9	9.5	8.0
30	7.7	9.1	9.9	12	---	5.8	3.5	7.5	2.4	3.1	9.5	8.0
31	7.5	---	12	11	---	5.8	---	15	---	3.1	9.0	---
TOTAL	303.1	276.5	333.2	584	291.0	295.6	134.8	120.6	108.4	82.6	379.7	292.17
MEAN	9.78	9.22	10.7	18.8	10.4	9.54	4.49	3.89	3.61	2.66	12.2	9.74
MAX	19	22	24	35	16	38	5.8	15	15	3.1	129	29
MIN	7.5	6.4	9.1	11	9.0	5.8	3.3	2.9	2.4	2.2	3.1	.47
AC-FT	601	548	661	1160	577	586	267	239	215	164	753	580
CAL YR 1976	TOTAL	5716.20	MEAN	15.6	MAX	1000	MIN	1.3	AC-FT	11340		
WTR YR 1977	TOTAL	3201.67	MEAN	8.77	MAX	129	MIN	.47	AC-FT	6350		

10254600 ALAMO RIVER AT DROP NO. 9, NEAR HOLTVILLE, CA

## WATER-QUALITY RECORDS

LOCATION.--Lat 32°49'57", long 115°26'09", in SE¼SE¼NE¼ sec.20, T.15 S., R.15 E., Imperial County, at gaging station 3.4 mi (5.5 km) northwest of Holtville.

PERIOD OF RECORD.--

CHEMICAL ANALYSES: August 1969 to June 1970, August 1975 to September 1977.

REMARKS.--Data for the 1975 and 1976 water years are published with the 1977 water year.

COOPERATION.--Discharges were furnished by Imperial Irrigation District.

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	HARDNESS (CA, MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)	DIS-SOLVED CALCIUM (CA) (MG/L)	DIS-SOLVED MAGNESIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	PERCENT SODIUM	SODIUM ADSORPTION RATIO
AUG 26...	1030	225	3000	8.2	25.5	860	660	190	93	470	54	7.0
SEP 18...	1430	241	3450	7.3	29.0	880	690	190	99	460	53	6.7

DATE	TIME	DIS-SOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	ALKALINITY AS CaCO3 (MG/L)	CARBON DIOXIDE (CO2) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLORIDE (CL) (MG/L)	DIS-SOLVED FLUORIDE (F) (MG/L)	DIS-SOLVED SILICA (SiO2) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)
AUG 26...	11		235	0	193	2.4	830	530	.6	13	2280	3.10	--
SEP 18...	11		229	0	188	18	920	520	.5	13	2350	3.20	1530

DATE	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL ORGANIC NITRO- GEN (N) (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (NO3) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	DIS- SOLVED ORTHO. PHOS- PHORUS (P) (MG/L)	DIS- SOLVED ORTHO. PHOS- PHATE (PO4) (MG/L)	DIS- SOLVED BORON (B) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)
AUG 26...	4.9	4.9	4.0	6.0	10	15	66	.91	.23	.71	600	110
SEP 18...	5.8	5.6	4.0	.90	4.9	11	47	.53	.40	1.2	590	70

DATE	TIME	TOTAL ALDRIN (UG/L)	TOTAL CHLORDANE (UG/L)	TOTAL DDD (UG/L)	TOTAL DDE (UG/L)	TOTAL DDT (UG/L)	TOTAL DIAZINON (UG/L)	TOTAL DIELDRIN (UG/L)	TOTAL ENDRIN (UG/L)	TOTAL ETHION (UG/L)	TOTAL HEPTACHLOR (UG/L)	TOTAL HEPTACHLOR EPOXIDE (UG/L)
AUG 26...	1030	.00	.0	.00	.00	.00	--	.01	.00	.00	.00	.00
SEP 18...	1430	.00	.0	.00	.01	.00	.11	.01	.00	.00	.00	.00

DATE	TOTAL LINDANE (UG/L)	TOTAL MALATHION (UG/L)	TOTAL METHYL PARATHION (UG/L)	TOTAL METHYL TRITHION (UG/L)	TOTAL PARA-THION (UG/L)	TOTAL PCB (UG/L)	TOTAL TOXAPHENE (UG/L)	TOTAL TRI-THION (UG/L)	TOTAL 2,4-D (UG/L)	TOTAL 2,4,5-T (UG/L)	TOTAL SILVEX (UG/L)
AUG 26...	.00	.00	.00	.00	.00	.0	0	.00	.05	.00	.00
SEP 18...	.00	.00	.04	.00	.29	.0	0	.00	.68	.00	.00

10254600 ALAMO RIVER AT DROP NO. 9, NEAR HOLTVILLE, CA--Continued

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (CA, MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO
OCT 08...	1200	326	3400	8.0	20.0	800	600	190	80	430	53	6.6
NOV 20...	1130	241	3680	8.1	12.5	880	650	200	92	480	54	7.1
DEC 10...	0930	195	4470	8.0	14.5	990	780	230	100	580	56	8.0
JAN 29...	1100	217	3790	8.1	12.5	900	680	210	91	510	55	7.4
FEB 19...	0930	200	5150	8.2	16.0	1200	990	260	140	700	55	8.7
MAR 18...	0930	--	3350	8.3	16.5	810	620	190	82	420	53	6.4
APR 22...	0845	245	3642	7.7	19.5	870	660	200	89	460	53	6.8
MAY 13...	0930	265	3734	8.0	23.0	930	720	210	98	500	54	7.1
JUL 01...	1145	227	4100	8.3	25.0	800	590	170	91	460	55	7.1
29...	1000	220	3390	7.9	29.0	910	710	200	100	530	55	7.6
SEP 23...	0930	195	4210	8.2	26.7	1100	880	240	120	620	55	8.2

DATE	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	ALKA- LITY AS CACO3 (MG/L)	CARBON DIOXIDE (CO2) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SiO2) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DIS- SOLVED SOLIDS (TONS PER AC-FT)	DIS- SOLVED SOLIDS (TONS PER DAY)
OCT 08...	10	249	0	204	4.0	830	490	.6	12	2190	2.98	1930
NOV 20...	11	277	0	227	3.5	820	530	.6	11	2320	3.16	1510
DEC 10...	13	255	0	209	4.1	990	720	.6	12	2810	3.82	1480
JAN 29...	11	270	0	221	3.4	860	570	.6	10	2440	3.32	1430
FEB 19...	12	288	0	236	2.6	1200	950	.7	10	3470	4.72	--
MAR 18...	12	239	0	196	1.7	830	500	.7	11	2200	2.99	--
APR 22...	12	248	0	203	7.9	920	540	.5	10	2390	3.25	1580
MAY 13...	13	252	0	207	4.0	940	630	.5	11	2560	3.48	--
JUL 01...	15	251	0	206	2.0	820	570	.8	13	2290	3.11	--
29...	14	245	0	201	4.9	980	570	.6	13	2610	3.55	--
SEP 23...	14	256	0	210	2.6	990	770	.7	14	2970	4.04	--

10254600 ALAMO RIVER AT DROP NO. 9, NEAR HOLTVILLE, CA--Continued

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL ORGANIC NITRO- GEN (N) (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (NO3) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	DIS- SOLVED ORTHO. PHOS- PHORUS (P) (MG/L)	DIS- SOLVED ORTHO. PHOS- PHATE (PO4) (MG/L)	DIS- SOLVED BORON (B) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)
OCT 08...	5.9	5.8	3.9	.00	3.3	9.2	41	.86	.42	1.3	570	10
NOV 20...	8.9	8.4	2.3	2.1	4.4	13	59	.29	.23	.71	630	0
DEC 10...	10	9.2	3.3	1.3	4.6	15	65	.84	.44	1.4	770	20
JAN 29...	10	10	2.5	6.1	8.6	19	82	1.3	.78	2.4	580	80
FEB 19...	14	12	2.0	1.7	3.7	18	78	.56	.36	1.1	900	0
MAR 18...	7.9	7.6	2.4	2.2	4.6	13	55	1.7	1.3	4.0	520	110
APR 22...	10	6.9	.81	1.2	2.0	12	53	.74	.37	1.1	560	30
MAY 13...	7.8	7.7	3.7	.00	3.4	11	50	.85	.58	1.8	570	50
JUL 01...	5.9	5.6	15	.00	14	20	88	1.1	.46	1.4	240	100
JUL 29...	17	18	11	.00	5.6	23	100	.91	.46	1.4	630	30
SEP 23...	17	16	--	--	--	--	--	1.1	.22	.67	760	60

DATE	TIME	TOTAL ALDRIN (UG/L)	TOTAL CHLOR- DANE (UG/L)	TOTAL DDD (UG/L)	TOTAL DDE (UG/L)	TOTAL DDT (UG/L)	TOTAL DI- AZINON (UG/L)	TOTAL DI- ELDRIN (UG/L)
OCT 08...	1200	.00	.0	.00	.03	.00	.17	.02
NOV 20...	1130	.00	.0	.00	.01	.00	.12	.00
DEC 10...	0930	.00	.0	.00	.01	.00	.64	.00
JAN 29...	1100	.00	.0	.00	.03	.00	.98	.00
FEB 19...	0930	.00	.0	.00	.01	.00	.09	.01
MAR 18...	0930	.00	.0	.00	.00	.00	.49	.03
APR 22...	0845	.00	.0	.00	.00	.00	.08	.00
MAY 13...	0930	.00	.0	.00	.01	.00	.06	.01
JUN 03...	0930	.00	.0	.00	.03	.00	.06	.00
JUL 01...	1145	.00	.0	.00	.04	.00	.03	.02
JUL 29...	1000	.00	.0	.01	.04	.01	.05	.02
SEP 23...	0930	.00	.0	.01	.05	.02	.08	.03

## SALTON SEA BASIN

10254600 ALAMO RIVER AT DROP NO. 9, NEAR HOLTVILLE, CA--Continued

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TOTAL PARA- THION (UG/L)	TOTAL PCB (UG/L)	POLY- CHLO- RINATED NAPH- THA- LENES (UG/L)	TOTAL TOX- APHENE (UG/L)	TOTAL TRI- THION (UG/L)	TOTAL 2,4-D (UG/L)	TOTAL 2,4,5-T (UG/L)	TOTAL SILVEX (UG/L)
OCT 08...	.86	.0	.00	0	.00	.33	.00	.00
NOV 20...	.24	.0	.00	0	.00	.14	.00	.00
DEC 10...	.04	.0	.00	0	.00	.13	.00	.01
JAN 29...	.03	.0	.00	0	.00	.11	.35	.11
FEB 19...	.00	.0	.00	0	.00	.00	.04	.03
MAR 18...	.00	.0	.00	0	.00	.30	.00	.21
APR 22...	.02	.0	.00	0	.00	.96	.00	.12
MAY 13...	.01	.0	.00	0	.00	.63	.00	.06
JUN 03...	.00	.0	.00	0	.00	.13	.00	.04
JUL 01...	.00	.0	.00	0	.00	--	--	--
29...	.13	.0	.00	0	.00	.55	.00	.05
SEP 23...	.19	.0	.00	0	.00	1.0	.00	.21

DATE	TOTAL ENDRIN (UG/L)	TOTAL ETHION (UG/L)	TOTAL HEPTA- CHLOR (UG/L)	TOTAL HEPTA- CHLOR EPOXIDE (UG/L)	DIS- SOLVED LINDANE (UG/L)	TOTAL LINDANE (UG/L)	TOTAL MALA- THION (UG/L)	TOTAL METHYL PARA- THION (UG/L)	TOTAL METHYL TRI- THION (UG/L)
OCT 08...	.01	.00	.00	.00	--	.00	--	.41	.00
NOV 20...	.00	.00	.00	.00	--	.00	.00	.05	.00
DEC 10...	.00	.00	.00	.00	--	.00	.09	.01	.00
JAN 29...	.00	.00	.00	.00	--	.00	.04	.02	.00
FEB 19...	.00	.00	.00	.00	--	.00	.00	.11	.00
MAR 18...	.00	.00	.00	.00	--	.00	.00	.13	.00
APR 22...	.00	.00	.00	.00	--	.00	.00	.05	.00
MAY 13...	.00	.00	.00	.00	--	.00	.00	.01	.00
JUN 03...	.00	.00	.00	.00	.11	.00	--	.00	.00
JUL 01...	.00	.00	.00	.00	--	.00	.00	.00	.00
29...	.00	.00	.00	.00	--	.00	.00	.04	.00
SEP 23...	.00	.00	.00	.00	--	.00	.00	.11	.00

10254600 ALAMO RIVER AT DROP NO. 9, NEAR HOLTVILLE, CA--Continued

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (CA+MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO
OCT 14...	0930	306	3500	7.6	22.0	910	690	210	93	500	54	7.2
NOV 11...	0900	213	4300	8.1	17.5	1100	850	250	110	590	54	7.8
JAN 12...	0900	203	3900	7.5	9.5	1000	820	220	110	540	54	7.4
MAR 21...	1325	251	3400	7.8	18.0	900	700	210	91	480	53	7.0
APR 20...	0900	287	3500	7.9	19.0	940	730	210	100	490	53	7.0
MAY 18...	0900	248	3650	7.6	18.0	890	670	200	94	490	54	7.2
JUN 08...	0700	237	3700	8.1	26.0	940	710	210	100	520	54	7.4
JUL 13...	0630	227	3400	8.0	26.0	870	660	200	90	460	53	6.8
AUG 24...	0630	231	4700	7.5	28.0	1300	980	290	130	640	52	7.8
SEP 16...	0735	152	4300	8.1	20.5	1000	780	230	110	600	56	8.1

DATE	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	ALKA- LINITY AS CACO3 (MG/L)	CARBON DIOXIDE (CO2) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SIO2) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DIS- SOLVED SOLIDS (TONS PER AC-FT)	DIS- SOLVED SOLIDS (TONS PER DAY)
OCT 14...	12	260	0	213	10	1000	490	.6	14	2500	3.40	2070
NOV 11...	12	278	0	228	3.5	1100	740	.7	13	3020	4.11	1740
JAN 12...	11	224	0	184	11	940	660	.6	11	2620	3.56	1440
MAR 21...	11	244	0	200	6.2	860	590	.7	11	2430	3.30	1650
APR 20...	12	250	0	210	5.0	880	540	.7	11	2410	3.28	1870
MAY 18...	12	270	0	220	11	880	550	.6	10	2410	3.28	1610
JUN 08...	14	270	0	220	3.4	910	590	.7	13	2530	3.44	1620
JUL 13...	12	260	0	210	4.2	810	540	.7	15	2280	3.10	1400
AUG 24...	21	340	0	280	17	1100	810	.7	16	3210	4.37	2000
SEP 16...	12	300	0	250	3.8	1100	640	.7	15	2890	3.93	1190

10254600 ALAMO RIVER AT DROP NO. 9, NEAR HOLTVILLE, CA--Continued

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL ORGANIC NITRO- GEN (N) (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (NO3) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	DIS- SOLVED ORTHO. PHOS- PHORUS (P) (MG/L)	DIS- SOLVED ORTHO. PHOS- PHATE (P04) (MG/L)	DIS- SOLVED BORON (B) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)
OCT 14...	11	11	1.4	2.2	3.6	15	65	.66	.41	1.3	620	20
NOV 11...	14	14	2.3	--	--	--	--	.74	.38	1.2	700	90
JAN 12...	>5.1	3.4	8.6	.00	.47	13	60	.75	.60	1.8	640	20
MAR 21...	11	11	.02	2.2	2.2	13	58	1.0	.58	1.8	550	30
APR 20...	8.8	8.8	2.4	1.8	4.2	13	58	.62	.54	1.7	520	50
MAY 18...	8.5	7.7	1.7	2.0	3.7	12	54	.91	.47	1.4	540	30
JUN 08...	8.5	8.2	2.5	4.1	6.6	15	67	1.3	.70	2.1	630	30
JUL 13...	6.2	6.1	.94	1.7	2.6	8.8	39	.74	.27	.83	570	80
AUG 24...	7.7	7.8	5.8	7.2	13	21	92	5.9	.18	.55	850	40
SEP 16...	9.9	8.3	2.6	.90	3.5	13	59	.64	.21	.64	800	30

DATE	TIME	TOTAL ALDRIN (UG/L)	TOTAL ATRA- ZINE (UG/L)	TOTAL CHLOR- DANE (UG/L)	TOTAL DDD (UG/L)	TOTAL DDE (UG/L)	TOTAL DDT (UG/L)	TOTAL DI- AZINON (UG/L)	TOTAL DI- ELDRIN (UG/L)	TOTAL ENDO- SULFAN (UG/L)
OCT 14...	0930	.00	--	.0	.01	.04	.02	.11	.02	--
NOV 11...	0900	.00	.00	.0	.01	.03	.01	.65	.00	.07
JAN 12...	0900	.00	.00	.0	.00	.02	.00	.20	.01	.00
MAR 21...	1325	.00	.00	.0	.00	.02	.00	1.2	.02	.02
APR 20...	0900	.00	.00	.1	.00	.03	.01	.74	.01	.00
MAY 12...	1000	.00	--	.0	.00	.02	.01	.33	.01	.00
18...	0900	.00	.00	.0	.00	.02	.01	.00	.01	.01
JUN 08...	0700	.00	.00	.0	.00	.02	.00	.05	.02	.01
JUL 13...	0630	.00	.00	.0	.02	.03	.05	.03	.02	.00
AUG 24...	0630	.00	.00	.0	.03	.07	.03	.70	.00	.00
SEP 16...	0730	.00	.00	.0	.01	.02	.00	.19	.01	.01



10254600 ALAMO RIVER AT DROP NO. 9, NEAR HOLTVILLE, CA--Continued

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTREMR 1977

DATE	TOTAL ENDRIN (UG/L)	TOTAL ETHION (UG/L)	TOTAL HEPTA- CHLOR (UG/L)	TOTAL HEPTA- CHLOR EPOXIDE (UG/L)	TOTAL LINDANE (UG/L)	TOTAL MALA- THION (UG/L)	TOTAL METHYL PARA- THION (UG/L)	TOTAL METHYL TRI- THION (UG/L)	TOTAL PARA- THION (UG/L)
OCT									
14...	.01	.00	.00	.00	.00	.00	.09	.00	.40
NOV									
11...	.00	.00	.00	.00	.00	.36	.00	.00	.24
JAN									
12...	.00	.00	.00	.00	.00	7.1	.02	.00	.03
MAR									
21...	.01	.00	.00	.00	.00	.11	.15	.00	.01
APR									
20...	.00	.00	.00	.00	.00	.00	.23	.00	.00
MAY									
12...	.00	.00	.00	.00	.00	.00	.01	.00	.00
18...	.00	.00	.00	.00	.00	.00	.00	.00	.01
JUN									
08...	.01	.00	.00	.00	.00	.00	.00	.00	.01
JUL									
13...	.01	.00	.00	.00	.00	.00	.00	.00	.00
AUG									
24...	.00	.00	.00	.00	.00	.00	.02	.00	.06
SEP									
16...	.00	.00	.00	.00	.06	.00	.18	.00	.06

DATE	TOTAL PHOS- DRIN (UG/L)	TOTAL PCB (UG/L)	POLY- CHLO- RINATED NAPH- THA- LENES (UG/L)	SINA- ZINE TOTAL COUL- SON COND. (UG/L)	TOTAL TOX- APHENE (UG/L)	TOTAL TRI- THION (UG/L)	TOTAL 2,4-D (UG/L)	TOTAL 2,4,5-T (UG/L)	TOTAL SILVEX (UG/L)
OCT									
14...	--	.0	.00	--	0	.40	.06	.00	.02
NOV									
11...	.00	.0	.00	.00	0	.00	.22	.00	.01
JAN									
12...	.00	.0	.00	3.4	0	.00	.00	.00	.01
MAR									
21...	.00	.0	.00	.00	0	.00	.40	.05	.64
APR									
20...	.16	.0	.00	.00	0	.00	1.1	.01	.25
MAY									
12...	--	.0	.00	--	0	.00	--	--	--
18...	.00	.0	.00	.10	0	.00	.21	.00	.04
JUN									
08...	.00	.0	.00	.00	0	.00	.00	.00	.04
JUL									
13...	.00	.0	.00	.00	0	.00	.07	.00	.04
AUG									
24...	.00	.0	.00	.70	0	.00	1.1	.02	.72
SEP									
16...	.00	.0	.00	1.0	0	.00	.06	.00	.02

## SALTON SEA BASIN

10254600 ALAMO RIVER AT DROP NO. 9, NEAR HOLTVILLE, CA--Continued

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	TOTAL ALDRIN (UG/L)	TOTAL ATRA-ZINE (UG/L)	TOTAL CHLOR-DANE (UG/L)	TOTAL DDD (UG/L)	TOTAL DDE (UG/L)	TOTAL DDT (UG/L)	TOTAL DI-AZINON (UG/L)	TOTAL DI-ELDRIN (UG/L)	TOTAL ENDO-SULFAN (UG/L)
OCT 13...	1500	.00	--	.1	.00	.02	.00	.10	.01	--
NOV 10...	1500	.00	.00	.0	.00	.02	.01	.12	.00	.08
MAR 22...	1130	.00	.00	.0	.00	.03	.01	.32	.00	.02
APR 19...	1430	.00	.00	.0	.00	.01	.00	.47	.01	.00
MAY 17...	1430	.00	.00	.0	.00	.01	.00	.16	.01	.00
JUN 07...	1200	.00	.00	.0	.02	.03	.01	.03	.01	.00
JUL 12...	1200	.00	.00	.0	.02	.02	.01	.00	.01	.00
AUG 23...	1200	.00	.00	.0	.03	.09	.03	.06	.00	.00
SEP 13...	1200	.00	.00	.0	.00	.00	.02	.65	.00	.02

DATE	TOTAL ENDRIN (UG/L)	TOTAL ETHION (UG/L)	TOTAL HEPTA-CHLOR (UG/L)	TOTAL HEPTA-CHLOR EPOXIDE (UG/L)	TOTAL LINDANE (UG/L)	TOTAL MALA-THION (UG/L)	TOTAL METHYL PARA-THION (UG/L)	TOTAL METHYL TRI-THION (UG/L)	TOTAL PARA-THION (UG/L)
OCT 13...	.00	.00	.00	.00	.00	.00	3.8	.00	1.6
NOV 10...	.00	.00	.00	.00	.00	.13	.29	.00	.43
MAR 22...	.01	.00	.00	.00	.00	.24	.20	.00	.00
APR 19...	.00	.00	.00	.00	.00	.09	.14	.00	.00
MAY 17...	.00	.00	.00	.00	.00	.09	.00	.00	.01
JUN 07...	.01	.00	.00	.00	.00	.00	.00	.00	.00
JUL 12...	.01	.00	.00	.00	.00	.00	.00	.00	.01
AUG 23...	.00	.00	.00	.00	.00	.00	.05	.00	.04
SEP 13...	.00	.00	.00	.00	.01	.00	2.5	.00	2.2

DATE	TOTAL PHOS-DRIN (UG/L)	TOTAL PCB (UG/L)	POLY-CHLORINATED NAPHTHALENES (UG/L)	SIMA-ZINE TOTAL COUL-SON COND. (UG/L)	TOTAL TOX-APHENE (UG/L)	TOTAL TRI-THION (UG/L)	TOTAL 2,4-D (UG/L)	TOTAL 2,4,5-T (UG/L)	TOTAL SILVEX (UG/L)
OCT 13...	--	.0	.00	--	0	.00	.88	.00	.02
NOV 10...	.00	.0	.00	.00	0	.00	1.6	.00	.02
MAR 22...	.00	.0	.00	.00	0	.00	4.6	.00	.55
APR 19...	.01	.0	.00	.00	0	.00	.30	.02	.21
MAY 17...	.00	.0	.00	.00	0	.00	.34	.00	.09
JUN 07...	.31	.0	.00	.00	0	.00	.00	.00	.08
JUL 12...	.00	.0	.00	.00	0	.00	.32	.00	.05
AUG 23...	.01	.0	.00	.00	0	.00	.85	.01	.48
SEP 13...	.00	.0	.00	.60	0	.00	.08	.00	.04

10254670 ALAMO RIVER AT DROP NO. 3, NEAR CALIPATRIA, CA

## WATER-QUALITY RECORDS

LOCATION.--Lat 33°06'13", long 115°32'38", on line between secs. 19 and 20, T.12 S., R.14 E., Imperial County, at gaging station 2.2 mi (3.5 km) southwest of Calipatria.

PERIOD OF RECORD.--

CHEMICAL ANALYSES: August 1969 to June 1970, August 1975 to September 1977.

REMARKS.--Data for the 1975 and 1976 water years are published with 1977 water year.

COOPERATION.--Discharges were furnished by Imperial Irrigation District.

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

		INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH	TEMPER- ATURE (DEG C)	HARD- NESS (CA+MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	
AUG 27...	0950	723	3100	8.2	26.0	930	740	190	110	530	55	7.6	
SEP 18...	1300	915	3900	7.1	29.5	890	710	190	100	530	56	7.7	
DATE	TIME	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	ALKA- LINITY AS CACO3 (MG/L)	CARBON DIOXIDE (CO2) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SIO2) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L)	DIS- SOLVED SOLIDS (TONS PER AC-FT)	DIS- SOLVED SOLIDS (TONS PER DAY)
AUG 27...	12		231	0	189	2.3	910	680	.6	11	2580	3.51	--
SEP 18...	13		220	0	180	28	920	640	.6	12	2540	3.45	5650
DATE	TIME	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL ORGANIC NITRO- GEN (N) (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (NO3) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	DIS- SOLVED ORTHO. PHOS- PHORUS (P) (MG/L)	DIS- SOLVED ORTHO PHOS- PHATE (PO4) (MG/L)	DIS- SOLVED BORON (B) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)
AUG 27...	6.0		5.6	1.2	1.4	2.6	8.6	38	.79	.12	.37	650	70
SEP 18...	5.8		5.8	2.5	1.7	4.2	10	44	.32	.18	.55	710	40
DATE	TIME	TOTAL ALDRIN (UG/L)	TOTAL CHLOR- DANE (UG/L)	TOTAL DDD (UG/L)	TOTAL DDE (UG/L)	TOTAL DDT (UG/L)	TOTAL DI- AZINON (UG/L)	TOTAL DI- ELDRIN (UG/L)	TOTAL ENDRIN (UG/L)	TOTAL ETHION (UG/L)	TOTAL HEPTA- CHLOR (UG/L)	TOTAL HEPTA- CHLOR EPOXIDE (UG/L)	
AUG 27...	0950	.00	.0	.00	.02	.00	.02	.02	.01	.00	.00	.00	
SEP 18...	1300	.00	.0	.00	.01	.00	.05	.01	.00	--	.00	.00	
DATE	TIME	TOTAL LINDANE (UG/L)	TOTAL MALA- THION (UG/L)	TOTAL METHYL THION (UG/L)	TOTAL METHYL TRI- THION (UG/L)	TOTAL PARA- THION (UG/L)	TOTAL PCB (UG/L)	TOTAL TOX- APHENE (UG/L)	TOTAL TRI- THION (UG/L)	TOTAL 2,4-D (UG/L)	TOTAL 2,4,5-T (UG/L)	TOTAL SILVEX (UG/L)	
AUG 27...		.00	.00	.03	.00	.17	.0	0	.00	.88	.00	.06	
SEP 18...		.00	.00	.21	--	.68	.0	0	--	1.8	.00	.05	

10254670 ALAMO RIVER AT DROP NO. 3, NEAR CALIPATRIA, CA--Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	HARDNESS (CA+MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)	DIS-SOLVED CALCIUM (CA) (MG/L)	DIS-SOLVED MAGNESIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	PERCENT SODIUM	SODIUM ADSORPTION RATIO
OCT 07...	1415	1155	3600	8.2	22.0	690	680	190	100	510	55	7.5
NOV 19...	1500	753	3500	8.1	13.5	950	730	200	110	570	56	8.0
DEC 09...	1400	730	4950	8.0	14.5	960	750	220	100	600	57	8.4
JAN 29...	0900	707	4400	8.2	12.0	910	730	200	100	560	57	8.1
FEB 18...	1500	326	5300	8.2	17.0	1300	1100	270	160	780	56	9.3
MAR 17...	1500	979	4150	8.0	17.5	910	720	200	100	480	53	6.9
APR 21...	1500	723	4610	7.7	22.0	1000	840	220	120	630	56	8.5
MAY 12...	1430	979	4720	8.1	25.0	1000	800	210	120	580	55	7.9
JUN 02...	1445	805	3960	7.9	25.5	890	580	190	100	500	54	7.3
JUL 28...	1115	783	4063	7.7	30.0	990	810	200	120	540	54	7.5
SEP 22...	1200	700	4900	8.0	26.9	1200	960	240	140	680	55	8.6
DATE	DIS-SOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	ALKALINITY AS CaCO3 (MG/L)	CARBON DIOXIDE (CO2) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLORIDE (CL) (MG/L)	DIS-SOLVED FLUORIDE (F) (MG/L)	DIS-SOLVED SILICA (SiO2) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)
OCT 07...	11	251	0	206	2.5	930	630	.6	11	2530	3.44	--
NOV 19...	12	271	0	222	3.4	900	690	.6	11	2660	3.62	4930
DEC 09...	12	255	0	209	4.1	870	770	.6	11	2740	3.73	5400
JAN 29...	12	227	0	186	2.3	910	730	.6	9.0	2670	3.63	5100
FEB 18...	12	282	0	231	2.8	1200	1200	.6	8.5	3810	5.18	3350
MAR 17...	14	235	0	193	3.8	820	610	.6	10	2390	3.25	6320
APR 21...	15	252	0	207	7.2	1000	820	.5	8.8	2970	4.04	5800
MAY 12...	16	269	0	221	3.0	1000	770	.7	17	2880	3.92	--
JUN 02...	18	247	0	203	--	870	640	.7	11	2490	3.39	5410
JUL 28...	15	227	0	186	7.2	960	740	.6	12	2740	3.73	--
SEP 22...	17	265	0	217	4.2	1000	910	.6	12	3180	4.32	--
DATE	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	DIS-SOLVED NITRITE PLUS NITRATE (N) (MG/L)	TOTAL AMMONIA-NITROGEN (N) (MG/L)	TOTAL ORGANIC NITROGEN (N) (MG/L)	TOTAL KJEL-DAHL NITROGEN (N) (MG/L)	TOTAL NITROGEN (N) (MG/L)	TOTAL NITROGEN (NO3) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	DIS-SOLVED ORTHO. PHOSPHORUS (P) (MG/L)	DIS-SOLVED ORTHO. PHOSPHATE (PO4) (MG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED IRON (FE) (UG/L)
OCT 07...	5.6	5.6	.70	.00	--	5.8	26	.54	.16	.49	700	10
NOV 19...	7.0	6.8	.49	2.6	3.1	10	45	.52	.20	.61	720	0
DEC 09...	7.0	6.6	1.5	2.0	3.5	11	46	.60	.21	.64	700	60
JAN 29...	7.9	7.9	3.9	1.0	4.9	13	57	.76	.23	.71	640	170
FEB 18...	8.8	9.0	.98	1.4	2.9	12	52	.45	.25	.77	940	110
MAR 17...	7.4	8.0	.97	3.1	4.1	12	51	.99	.79	2.4	600	1900
APR 21...	9.9	7.5	.92	--	--	--	--	.67	.22	.67	770	40
MAY 12...	6.6	6.6	.36	1.3	1.7	8.3	37	.63	.23	.71	620	170
JUN 02...	8.1	8.1	.41	1.7	2.1	10	45	.72	.26	.80	570	40
JUL 28...	3.3	8.9	.98	1.5	2.5	5.8	26	.56	.21	.64	690	40
SEP 22...	13	12	1.3	1.8	3.1	16	71	.66	.16	.49	840	70

10254670 ALAMO RIVER AT DROP NO. 3, NEAR CALIPATRIA, CA--Continued

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

				TOTAL CHLOR- DANE (UG/L)	TOTAL DDD (UG/L)	TOTAL DDE (UG/L)	TOTAL DDT (UG/L)	TOTAL DI- AZINON (UG/L)	TOTAL DI- ELDRIN (UG/L)
DATE	TIME	TOTAL ALDRIN (UG/L)							
OCT 07...	1415	.00		.0	.01	.06	.00	.18	.03
NOV 19...	1500	.00		.0	.33	.06	3.1	.05	.01
DEC 09...	1400	.00		.0	.00	.00	.00	.10	.00
JAN 29...	0900	.00		.0	.00	.04	.01	.66	.01
FEB 18...	1500	.00		.0	.00	.01	.00	.27	.00
MAR 17...	1500	.00		.0	.00	.03	.00	.36	.00
APR 21...	1500	.00		.0	.00	.03	.00	.06	.00
MAY 12...	1430	.00		.0	.00	.01	.00	.02	.01
JUN 02...	1445	.00		.0	.00	.02	.00	.06	.01
30...	1245	.00		.0	.00	.00	.00	.01	.00
JUL 28...	1115	.00		.0	.01	.03	.01	.06	.01
SEP 22...	1200	.00		.0	.00	.02	.01	.63	.02
DATE	TOTAL ENDRIN (UG/L)	TOTAL ETHION (UG/L)	TOTAL HEPTA- CHLOR (UG/L)	TOTAL HEPTA- CHLOR EPOXIDE (UG/L)	DIS- SOLVED LINDANE (UG/L)	TOTAL LINDANE (UG/L)	TOTAL MALA- THION (UG/L)	TOTAL METHYL PARA- THION (UG/L)	TOTAL METHYL TRI- THION (UG/L)
OCT 07...	.01	.00	.00	.00	--	.00	--	.70	.00
NOV 19...	.00	.00	.00	.00	--	.00	.03	.05	.00
DEC 09...	.00	.00	.00	.00	--	.00	.08	.01	.00
JAN 29...	.00	.00	.00	.00	--	.00	.00	.00	.00
FEB 18...	.00	.00	.00	.00	--	.00	.00	.00	.00
MAR 17...	.00	.00	.00	.00	--	.00	.00	.19	.00
APR 21...	.00	.00	.00	.00	--	.00	.00	.08	.00
MAY 12...	.00	.00	.00	.00	--	.00	.00	.02	.00
JUN 02...	.00	.00	.00	.00	.12	.00	--	.01	.00
30...	.00	.00	.00	.00	--	.00	.00	.00	.00
JUL 28...	.00	.00	.00	.00	--	.00	.00	.04	.00
SEP 22...	.00	.00	.00	.00	--	.00	.00	.92	.00
DATE	TOTAL PARA- THION (UG/L)	TOTAL PCB (UG/L)	POLY- CHLO- RINATED NAPH- THA- LENES (UG/L)	TOTAL TOX- APHENE (UG/L)	TOTAL TRI- THION (UG/L)	TOTAL 2,4-D (UG/L)	TOTAL 2,4,5-T (UG/L)	TOTAL SILVEX (UG/L)	
OCT 07...	1.9	.0	.00	0	.00	.31	.00	.03	
NOV 19...	.22	.0	.00	0	.00	.56	.00	.01	
DEC 09...	.06	.7	.00	0	.00	.20	.00	.01	
JAN 29...	.00	.0	.00	0	.00	.48	.06	4.3	
FEB 18...	.00	.0	.00	0	.00	.19	.01	.80	
MAR 17...	.00	.0	.00	0	.00	.13	.02	1.0	
APR 21...	.00	.0	.00	0	.00	.16	.00	.23	
MAY 12...	.01	.0	.00	0	.00	.34	.00	.14	
JUN 02...	.00	.0	.00	0	.00	.19	.00	.06	
30...	.00	.0	.00	0	.00	--	--	--	
JUL 28...	.02	.0	.00	0	.00	1.9	.00	.44	
SEP 22...	1.6	.0	.00	0	.00	.38	.00	.20	

## SALTON SEA BASIN

10254670 ALAMO RIVER AT DROP NO. 3, NEAR CALIPATRIA, CA--Continued

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	INSTANTANEOUS DIS-CHARGE (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	HARD-NESS (CA+MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG)	DIS-SOLVED SODIUM (NA) (MG/L)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO
OCT 13...	1500	987	4100	7.7	24.0	950	740	200	110	560	56	7.9
NOV 10...	1500	685	4300	8.0	19.2	1100	860	230	120	620	55	8.3
JAN 11...	1500	471	4500	8.2	10.5	1000	820	210	120	590	55	8.0
MAR 22...	1130	760	4000	7.9	17.6	1000	800	220	110	570	55	7.8
APR 19...	1430	947	4200	7.7	22.0	1000	810	210	120	570	54	7.8
MAY 17...	1430	723	4900	8.1	19.0	1100	840	230	120	580	54	7.7
JUN 07...	1200	775	4100	7.6	27.0	950	740	200	110	560	56	7.9
JUL 12...	1200	760	3900	7.9	28.5	880	680	190	98	510	55	7.5
AUG 23...	1200	900	5650	7.5	30.5	1300	1100	250	160	780	56	9.5
SEP 13...	1205	--	4730	7.4	29.0	1100	870	220	130	680	57	9.0
DATE	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	ALKA-LINITY AS CAC03 (MG/L)	CARBON DIOXIDE (CO2) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	DIS-SOLVED FLUO-RIDE (F) (MG/L)	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)
OCT 13...	13	253	0	208	8.1	1000	680	.6	13	2750	3.74	7330
NOV 10...	13	254	0	208	4.1	1000	820	.7	12	2990	4.07	5530
JAN 11...	10	244	0	200	2.5	940	800	.6	11	2850	3.88	3620
MAR 22...	13	246	0	200	5.0	930	730	.6	10	2740	3.73	5620
APR 19...	15	260	0	210	8.3	940	690	.7	10	2720	3.70	6960
MAY 17...	14	280	0	230	3.6	1000	790	.6	11	2920	3.97	5700
JUN 07...	14	260	0	210	10	880	680	.7	11	2610	3.55	5460
JUL 12...	12	240	0	200	4.8	820	600	.7	14	2390	3.25	4900
AUG 23...	21	280	0	230	14	1100	1100	.6	12	3600	4.90	8750
SEP 13...	15	260	0	210	17	1100	880	.7	14	3200	4.35	--
DATE	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	DIS-SOLVED NITRITE PLUS NITRATE (N) (MG/L)	TOTAL AMMONIA NITRO-GEN (N) (MG/L)	TOTAL ORGANIC NITRO-GEN (N) (MG/L)	TOTAL KJEL-DAHL NITRO-GEN (N) (MG/L)	TOTAL NITRO-GEN (N) (MG/L)	TOTAL NITRO-GEN (NO3) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	DIS-SOLVED ORTHO. PHOS-PHORUS (P) (MG/L)	DIS-SOLVED ORTHO. PHOS-PHATE (PO4) (MG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED IRON (FE) (UG/L)
OCT 13...	9.9	9.6	.32	1.3	1.6	12	51	.67	.26	.80	720	0
NOV 10...	12	11	.26	1.8	2.1	14	62	.63	.21	.64	760	40
JAN 11...	9.8	9.8	1.7	.60	2.3	12	54	.42	.28	.86	720	50
MAR 22...	7.4	7.3	2.0	1.2	3.2	11	47	.83	.42	1.3	640	20
APR 19...	7.7	7.7	.51	1.7	2.2	9.9	44	.38	.28	.86	640	50
MAY 17...	8.5	7.8	.64	2.2	2.8	11	50	.86	.35	1.1	730	80
JUN 07...	6.7	6.6	.76	6.2	7.0	14	61	1.1	.26	.80	680	50
JUL 12...	6.3	6.0	.77	1.6	2.4	8.7	39	.70	.18	.55	640	40
AUG 23...	7.7	7.7	5.6	4.4	10	18	78	2.3	.12	.37	900	20
SEP 13...	8.5	7.2	.45	1.2	1.6	10	45	.37	.09	.28	850	30

10254670 ALAMO RIVER AT DROP NO. 3, NEAR CALIPATRIA, CA--Continued

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	TOTAL ALDRIN (UG/L)	TOTAL ATRA-ZINE (UG/L)	TOTAL CHLOR-DANE (UG/L)	TOTAL ODD (UG/L)	TOTAL DDE (UG/L)	TOTAL DDT (UG/L)	TOTAL DI-AZINON (UG/L)	TOTAL DI-ELDRIN (UG/L)	TOTAL ENDO-SULFAN (UG/L)
OCT 13...	1500	.00	--	.1	.00	.02	.00	.10	.01	--
NOV 10...	1500	.00	.00	.0	.00	.02	.01	.12	.00	.08
MAR 22...	1130	.00	.00	.0	.00	.03	.01	.32	.00	.02
APR 19...	1430	.00	.00	.0	.00	.01	.00	.47	.01	.00
MAY 17...	1430	.00	.00	.0	.00	.01	.00	.16	.01	.00
JUN 07...	1200	.00	.00	.0	.02	.03	.01	.03	.01	.00
JUL 12...	1200	.00	.00	.0	.02	.02	.01	.00	.01	.00
AUG 23...	1200	.00	.00	.0	.03	.09	.03	.06	.00	.00
SEP 13...	1200	.00	.00	.0	.00	.00	.02	.65	.00	.02

DATE	TOTAL ENDRIN (UG/L)	TOTAL ETHION (UG/L)	TOTAL HEPTA-CHLOR (UG/L)	TOTAL HEPTA-CHLOR EPOXIDE (UG/L)	TOTAL LINDANE (UG/L)	TOTAL MALA-THION (UG/L)	TOTAL METHYL PARA-THION (UG/L)	TOTAL METHYL TRI-THION (UG/L)	TOTAL PARA-THION (UG/L)
OCT 13...	.00	.00	.00	.00	.00	.00	3.8	.00	1.6
NOV 10...	.00	.00	.00	.00	.00	.13	.29	.00	.43
MAR 22...	.01	.00	.00	.00	.00	.24	.20	.00	.00
APR 19...	.00	.00	.00	.00	.00	.09	.14	.00	.00
MAY 17...	.00	.00	.00	.00	.00	.09	.00	.00	.01
JUN 07...	.01	.00	.00	.00	.00	.00	.00	.00	.00
JUL 12...	.01	.00	.00	.00	.00	.00	.00	.00	.01
AUG 23...	.00	.00	.00	.00	.00	.00	.05	.00	.04
SEP 13...	.00	.00	.00	.00	.01	.00	2.5	.00	2.2

DATE	TOTAL PHOS-DRIN (UG/L)	TOTAL PCB (UG/L)	POLY-CHLORINATED NAPH-THA-LENES (UG/L)	SIMA-ZINE TOTAL COUL-SON COND. (UG/L)	TOTAL TOX-APHENE (UG/L)	TOTAL TRI-THION (UG/L)	TOTAL 2,4-D (UG/L)	TOTAL 2,4,5-T (UG/L)	TOTAL SILVEX (UG/L)
OCT 13...	--	.0	.00	--	0	.00	.88	.00	.02
NOV 10...	.00	.0	.00	.00	0	.00	1.6	.00	.02
MAR 22...	.00	.0	.00	.00	0	.00	4.6	.00	.55
APR 19...	.01	.0	.00	.00	0	.00	.30	.02	.21
MAY 17...	.00	.0	.00	.00	0	.00	.34	.00	.09
JUN 07...	.31	.0	.00	.00	0	.00	.00	.00	.08
JUL 12...	.00	.0	.00	.00	0	.00	.32	.00	.05
AUG 23...	.01	.0	.00	.00	0	.00	.85	.01	.48
SEP 13...	.00	.0	.00	.60	0	.00	.08	.00	.04

## SALTON SEA BASIN

10254730 ALAMO RIVER NEAR NILAND, CA

LOCATION.--Lat 33°12'03", long 115°36'07", in NE¼SW¼NE¼ sec.22, T.11 S., R.13 E., Imperial County, on left bank 0.6 mi (1.0 km) upstream from mouth, and 5.8 mi (9.3 km) southwest of Niland.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1943 to current year. Monthly discharge only for January 1943 to September 1960, published in WSP 1734.

GAGE.--Water-stage recorder. Altitude of gage is 235 ft (72 m) below mean sea level (from topographic map).

REMARKS.--Records good. Discharge represents seepage and return flow from irrigated areas.

COOPERATION.--Records furnished by Imperial Irrigation District and reviewed by the Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 4,500 ft<sup>3</sup>/s (127 m<sup>3</sup>/s) Aug. 17, 1977, estimated by Imperial Irrigation District, minimum daily, 288 ft<sup>3</sup>/s (8.16 m<sup>3</sup>/s) Jan. 2, 1966.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	861	710	606	630	709	911	1070	1070	826	869	1030	751
2	861	724	630	488	730	815	1040	976	847	858	1030	826
3	875	724	696	440	751	794	1030	922	890	890	1040	890
4	922	714	738	469	783	837	954	922	922	954	976	954
5	903	729	743	488	815	730	944	1090	922	944	976	944
6	875	733	738	530	772	751	954	1040	911	901	954	901
7	856	705	738	535	719	772	976	986	922	890	944	879
8	903	705	738	577	645	762	976	1030	944	901	965	837
9	936	743	714	577	687	730	997	1030	1010	954	965	826
10	979	766	743	563	772	719	1030	954	944	858	1020	837
11	998	800	738	554	772	751	1020	954	922	879	1030	794
12	1000	809	724	535	783	772	1020	1010	901	890	997	751
13	1000	889	738	568	762	911	1090	1030	805	869	1010	709
14	979	625	686	558	762	944	1150	1010	751	901	986	709
15	989	544	667	582	762	933	1120	901	666	890	1260	762
16	951	516	649	577	751	997	1100	837	719	911	3500	740
17	955	511	639	573	805	997	1090	794	772	901	4500	730
18	922	493	681	549	794	997	1080	847	794	890	3000	709
19	880	516	681	563	826	890	1120	922	826	858	2210	751
20	861	516	672	582	740	901	1120	944	751	911	1800	783
21	842	511	696	625	740	879	1160	890	815	986	1160	730
22	917	507	672	644	762	901	1160	879	772	911	1030	815
23	941	521	658	635	740	997	1150	869	772	879	986	837
24	866	535	635	625	815	997	1100	879	730	911	933	858
25	861	568	568	597	779	1050	1050	954	762	944	826	858
26	823	597	474	597	719	1060	1060	1060	805	890	740	826
27	771	620	435	613	783	1180	1080	1050	794	890	805	772
28	710	568	544	645	783	1120	1120	986	783	922	783	805
29	714	549	611	687	---	1080	1150	954	772	944	709	911
30	738	573	653	666	---	1070	1140	890	847	965	709	869
31	729	---	667	656	---	1090	---	837	---	1040	740	---
TOTAL	27418	19021	20572	17928	21261	28338	32051	29517	24897	28201	39614	24364
MEAN	884	634	664	578	759	914	1068	952	830	910	1278	812
MAX	1000	889	743	687	826	1180	1160	1090	1010	1040	4500	954
MIN	710	493	435	440	645	719	944	794	666	858	709	709
AC-FT	54380	37730	40800	35560	42170	56210	63570	58550	49380	55940	78570	48330
CAL YR 1976 TOTAL	322097			MEAN 880	MAX 1710	MIN 435	AC-FT 638900					
WTR YR 1977 TOTAL	313182			MEAN 858	MAX 4500	MIN 435	AC-FT 621200					



10254730 ALAMO RIVER NEAR NILAND, CA--Continued

## WATER-QUALITY RECORDS

## PERIOD OF RECORD.--

CHEMICAL ANALYSES: October 1963 to September 1964, water year 1967 (partial-record station), August 1969 to June 1971, August 1975 to current year.

REMARKS.--Data for the 1975 and 1976 water years are published with the 1977 water year.

COOPERATION.--Discharges were furnished by Imperial Irrigation District.

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	HARDNESS (CA, MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)	DIS-SOLVED CALCIUM (CA) (MG/L)	DIS-SOLVED MAGNESIUM (MG)	DIS-SOLVED SODIUM (NA) (MG/L)	PERCENT SODIUM	SODIUM ADSORPTION RATIO
AUG 27...	1030	809	3860	8.2	26.0	930	740	190	110	530	55	7.6
SEP 18...	1145	1083	3550	7.3	29.0	860	690	190	94	470	54	7.0

	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	ALKA- LINITY AS CACO3 (MG/L)	CARBON DIOXIDE (CO2) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SI02) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L)	DIS- SOLVED SOLIDS (TONS PER AC-FT)	DIS- SOLVED SOLIDS (TONS PER DAY)
AUG 27...	13	223	0	183	2.3	910	700	.6	12	2600	3.54	5680
SEP 18...	13	209	0	171	17	910	590	.6	12	2410	3.28	7050

DATE	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL ORGANIC NITRO- GEN (N) (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (NO3) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	DIS- SOLVED ORTHO. PHOS- PHORUS (P) (MG/L)	DIS- SOLVED ORTHO. PHOS- PHATE (PO4) (MG/L)	DIS- SOLVED BORON (B) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)
AUG 27...	6.1	6.1	1.3	1.7	3.0	9.1	40	1.1	.13	.40	700	70
SEP 18...	6.1	5.7	1.7	1.6	3.3	9.4	42	.64	.15	.46	630	30

DATE	TIME	TOTAL ALDRIN (UG/L)	TOTAL CHLORDANE (UG/L)	TOTAL DDD (UG/L)	TOTAL DDE (UG/L)	TOTAL DDT (UG/L)	TOTAL DI-AZINON (UG/L)	TOTAL DI-ELDRIN (UG/L)	TOTAL ENDRIN (UG/L)	TOTAL ETHION (UG/L)	TOTAL HEPTACHLOR (UG/L)	TOTAL HEPTACHLOR EPOXIDE (UG/L)
AUG 27...	1030	.00	.0	.00	.00	.00	.02	.02	.00	.00	.00	.00
SEP 18...	1145	.00	.0	.00	.05	.00	.02	.00	.00	.00	.00	.00

DATE	TOTAL LINDANE (UG/L)	TOTAL MALA- THION (UG/L)	TOTAL METHYL PARA- THION (UG/L)	TOTAL METHYL TRI- THION (UG/L)	TOTAL PARA- THION (UG/L)	TOTAL PCB (UG/L)	TOTAL TOX- APHENE (UG/L)	TOTAL TRI- THION (UG/L)	TOTAL 2,4-D (UG/L)	TOTAL 2,4,5-T (UG/L)	TOTAL SILVEX (UG/L)
AUG 27...	.00	.00	.06	.00	.28	.0	0	.00	.96	.00	.05
SEP 18...	.00	.00	.38	.00	.19	.0	0	.00	1.8	.00	.07

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	HARDNESS (CA+MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)	DIS-SOLVED CALCIUM (CA) (MG/L)	DIS-SOLVED MAGNESIUM (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	PERCENT SODIUM	SODIUM ADSORPTION RATIO
OCT 07...	1245	1201	3550	8.2	23.0	850	650	180	98	500	56	7.5
NOV 19...	1400	856	6450	8.1	14.0	950	740	200	110	560	56	7.9
DEC 09...	1200	790	3200	8.0	13.0	900	700	200	98	550	57	8.0
JAN 28...	1400	819	4600	8.0	13.0	930	730	190	110	540	56	7.7
FEB 18...	1300	445	5500	8.0	16.0	1400	1100	270	170	850	57	10
MAR 17...	1330	1121	4000	8.0	18.0	840	660	180	95	470	54	7.1
APR 21...	1330	823	4783	7.7	21.0	1000	810	210	120	620	57	8.5
MAY 12...	1300	1100	4250	8.1	25.0	950	740	200	110	530	54	7.5
JUN 02...	1330	885	3900	7.8	25.0	890	690	190	100	520	55	7.6
JUL 28...	0945	889	4144	7.6	29.0	1000	850	210	120	570	54	7.8
SEP 22...	1030	762	4610	8.0	25.9	1100	890	230	130	650	56	8.5

DATE	DIS-SOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	ALKALINITY AS CAC03 (MG/L)	CARBON DIOXIDE (CO2) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLORIDE (CL) (MG/L)	DIS-SOLVED FLUORIDE (F) (MG/L)	DIS-SOLVED SILICA (SiO2) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)
OCT 07...	11	245	0	201	2.5	900	610	.6	11	2460	3.35	7980
NOV 19...	12	262	0	215	3.3	880	690	.6	11	2620	3.56	6060
DEC 09...	12	245	0	201	3.9	830	730	.6	11	2580	3.51	5500
JAN 28...	12	245	0	201	3.9	920	700	.6	9.6	2640	3.59	5840
FEB 18...	15	285	0	234	4.1	1200	1200	.6	8.9	3860	5.25	4640
MAR 17...	12	217	0	178	3.5	780	570	.5	10	2270	3.09	6870
APR 21...	15	259	0	212	7.4	1000	830	.5	9.1	2960	4.03	6580
MAY 12...	16	256	0	210	2.9	960	720	.6	10	2700	3.67	--
JUN 02...	17	242	0	198	--	890	670	.7	11	2550	3.47	6090
JUL 28...	15	204	0	167	8.2	880	790	.6	12	2750	3.74	--
SEP 22...	14	264	0	217	4.2	950	880	.7	12	3040	4.13	--

DATE	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	DIS-SOLVED NITRITE PLUS NITRATE (N) (MG/L)	TOTAL AMMONIA NITROGEN (N) (MG/L)	TOTAL ORGANIC NITROGEN (N) (MG/L)	TOTAL KJEL-DAHL NITROGEN (N) (MG/L)	TOTAL NITROGEN (N) (MG/L)	TOTAL NITROGEN (NO3) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	DIS-SOLVED ORTHO. PHOSPHORUS (P) (MG/L)	DIS-SOLVED ORTHO. PHOSPHATE (PO4) (MG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED IRON (FE) (UG/L)
OCT 07...	5.4	5.4	.44	.86	1.3	6.7	30	.55	.09	.28	670	90
NOV 19...	6.8	6.5	.51	4.1	4.6	11	50	.47	.23	.71	700	0
DEC 09...	7.5	6.9	1.2	1.9	3.1	11	47	.73	.19	.58	670	20
JAN 28...	8.0	7.8	2.2	1.9	4.1	12	54	.58	.22	.67	620	50
FEB 18...	9.0	1.7	2.7	2.1	4.8	14	61	1.5	.24	.74	990	10
MAR 17...	10	10	1.4	2.9	4.3	14	63	1.3	.68	2.1	560	2000
APR 21...	7.3	6.7	.06	1.7	1.8	9.1	40	.63	.21	.64	710	40
MAY 12...	6.1	6.1	.26	1.0	1.3	7.4	33	.52	.21	.64	630	120
JUN 02...	6.6	6.1	.52	1.4	1.9	8.5	38	.61	.24	.74	780	60
JUL 28...	7.9	11	2.2	2.5	4.7	13	56	.54	.19	.58	660	60
SEP 22...	11	10	.10	1.1	1.2	12	54	.58	.11	.34	790	180

10254730 ALAMO RIVER NEAR NILAND, CA--Continued

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

		TOTAL ALDRIN (UG/L)	TOTAL CHLOR-DANE (UG/L)	TOTAL DDD (UG/L)	TOTAL DDE (UG/L)	TOTAL DDT (UG/L)	TOTAL D1-AZINON (UG/L)	TOTAL D1-ELDRIN (UG/L)
DATE	TIME							
OCT 07...	1245	.00	.0	.00	.00	.00	.14	.02
NOV 19...	1400	.00	.0	.01	.05	.01	.19	.01
DEC 09...	1200	.00	.0	.02	.09	.03	.14	.01
JAN 28...	1400	.00	.0	.00	.06	.00	.00	.00
FEB 18...	1300	.00	.0	.00	.01	.00	.12	.01
MAR 17...	1330	.00	.0	.00	.00	.00	.48	.00
APR 21...	1330	.00	.0	.00	.04	.00	.08	.00
MAY 12...	1300	.00	.0	.00	.02	.01	.03	.01
JUN 02...	1330	.00	.0	.00	.04	.00	.30	.00
30...	1030	.00	.0	.00	.01	.00	.03	.01
JUL 28...	0945	.00	.0	.00	.05	.00	.09	.00
SEP 22...	1030	.00	.0	.01	.03	.01	.23	.01

DATE	TOTAL ENDRIN (UG/L)	TOTAL ETHION (UG/L)	TOTAL HEPTA-CHLOR (UG/L)	TOTAL HEPTA-CHLOR EPOXIDE (UG/L)	DIS-SOLVED LINDANE (UG/L)	TOTAL LINDANE (UG/L)	TOTAL MALA-THION (UG/L)	TOTAL METHYL PARA-THION (UG/L)	TOTAL METHYL TRI-THION (UG/L)
OCT 07...	.00	.00	.00	.00	--	.00	.00	.64	.00
NOV 19...	.01	.00	.00	.00	--	.00	.05	.11	.00
DEC 09...	.01	.00	.00	.00	--	.00	.07	.03	.00
JAN 28...	.00	.00	.00	.00	--	.00	.00	.00	.00
FEB 18...	.00	.00	.00	.00	--	.00	.00	.00	.00
MAR 17...	.00	.00	.00	.00	--	.00	.00	.05	.00
APR 21...	.00	.00	.00	.00	--	.00	.00	.00	.00
MAY 12...	.01	.00	.00	.00	--	.00	.00	.02	.00
JUN 02...	.00	.00	.00	.00	.13	.00	--	.00	.00
30...	.00	.00	.00	.00	--	.00	.00	.00	.00
JUL 28...	.00	.00	.00	.00	--	.00	.00	.03	.00
SEP 22...	.00	.00	.00	.00	--	.00	.00	.77	.00

DATE	TOTAL PARA-THION (UG/L)	TOTAL PCB (UG/L)	POLY-CHLORINATED NAPH-THA-LENES (UG/L)	TOTAL TOX-APHENE (UG/L)	TOTAL TRI-THION (UG/L)	TOTAL 2,4-D (UG/L)	TOTAL 2,4,5-T (UG/L)	TOTAL SILVEX (UG/L)
OCT 07...	1.3	.0	.00	0	.00	.39	.00	.05
NOV 19...	.22	.0	.00	0	.00	.51	.00	.02
DEC 09...	.13	.0	.00	0	.00	.13	.00	.00
JAN 28...	.00	.0	.00	0	.00	.74	.02	3.9
FEB 18...	.00	.0	.00	0	.00	.12	.00	.73
MAR 17...	.00	.0	.00	0	.00	.26	.03	1.0
APR 21...	.00	.0	.00	0	.00	.42	.00	.23
MAY 12...	.01	.0	.00	0	.00	.36	.00	.20
JUN 02...	.00	.0	.00	0	.00	.26	.00	.04
30...	.00	.0	.00	0	.00	.14	.00	.06
JUL 28...	.06	.0	.00	0	.00	2.4	.01	.65
SEP 22...	2.4	.0	.00	0	.00	.48	.00	.20

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (CA+MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO
OCT 13...	1300	998	3750	7.6	24.6	910	710	200	100	550	56	7.9
NOV 10...	1330	743	4500	8.0	19.0	960	760	220	100	600	57	8.4
JAN 11...	1300	539	4700	7.6	10.0	1100	900	230	130	670	56	8.8
MAR 22...	1000	858	3900	7.9	17.4	940	740	210	100	550	56	7.8
APR 19...	1245	1130	4000	7.4	22.5	990	790	200	120	560	55	7.7
MAY 17...	1230	805	4700	7.6	19.0	1000	820	220	120	580	54	7.8
JUN 07...	1030	911	4150	7.6	26.0	950	750	200	110	570	56	8.0
JUL 12...	1000	890	3750	8.0	28.0	850	660	180	96	490	55	7.3
AUG 23...	1030	865	5300	7.4	30.0	1300	1100	280	140	690	54	8.4
SEP 13...	0950	772	4470	7.6	28.5	1100	850	210	130	650	57	8.7

DATE	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	ALKA- LINITY AS CACO3 (MG/L)	CARBON DIOXIDE (CO2) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SIO2) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITU- ENTS) (MG/L)	DIS- SOLVED SOLIDS (TONS PER AC-FT)	DIS- SOLVED SOLIDS (TONS PER DAY)
OCT 13...	13	245	0	201	9.8	880	780	.6	13	2700	3.67	7280
NOV 10...	13	250	0	205	4.0	950	780	.7	13	2850	3.88	5720
JAN 11...	11	252	0	207	10	1100	930	.7	12	3220	4.38	4690
MAR 22...	13	243	0	200	4.9	890	710	.7	10	2640	3.59	6120
APR 19...	15	250	0	210	16	920	680	.7	10	2670	3.63	8150
MAY 17...	14	270	0	220	11	960	780	.6	10	2850	3.88	6190
JUN 07...	14	250	0	210	10	890	710	.7	11	2670	3.63	6570
JUL 12...	12	220	0	180	3.5	780	590	.7	14	2300	3.13	5530
AUG 23...	21	260	0	210	17	1000	1000	.6	12	3310	4.50	7730
SEP 13...	15	260	0	210	10	1100	800	.7	14	3080	4.19	6420

DATE	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL ORGANIC NITRO- GEN (N) (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (NO3) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	DIS- SOLVED ORTHO. PHOS- PHORUS (P) (MG/L)	DIS- SOLVED ORTHO. PHOS- PHATE (PO4) (MG/L)	DIS- SOLVED BORON (B) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)
OCT 13...	10	9.8	.65	1.1	1.7	12	52	.73	.28	.86	680	60
NOV 10...	11	10	.18	1.4	1.6	13	56	.39	.25	.77	790	40
JAN 11...	8.9	1.2	1.9	.30	2.2	11	49	.42	.31	.95	790	20
MAR 22...	7.6	7.2	.72	.98	1.7	9.3	41	.99	.46	1.4	610	50
APR 19...	8.5	8.4	.68	1.3	2.0	11	46	.38	.30	.92	620	50
MAY 17...	9.0	7.7	.31	1.6	1.9	11	48	.86	.30	.92	700	30
JUN 07...	7.9	7.9	.66	2.5	3.2	11	49	1.1	.30	.92	660	20
JUL 12...	6.4	6.3	1.2	1.6	2.8	9.2	41	.83	.17	.52	600	40
AUG 23...	7.5	7.3	4.0	8.0	12	20	86	2.6	.11	.34	870	40
SEP 13...	8.4	7.3	.23	1.1	1.3	9.7	43	.40	.08	.25	810	10

10254730 ALAMO RIVER NEAR NILAND, CA--Continued

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	TOTAL ALDRIN (UG/L)	TOTAL ATRA- ZINE (UG/L)	TOTAL CHLOR- DANE (UG/L)	TOTAL DDD (UG/L)	TOTAL DDE (UG/L)	TOTAL DDT (UG/L)	TOTAL DI- AZINON (UG/L)	TOTAL DI- ELDRIN (UG/L)	TOTAL ENDO- SULFAN (UG/L)
NOV 10...	1330	.00	.00	.0	.01	.04	.02	.10	.00	.12
JAN 11...	1300	--	.00	--	--	--	--	--	--	--
MAR 22...	1000	.00	.00	.0	.00	.03	.01	.31	.00	.02
APR 19...	1245	.00	.00	.0	.00	.04	.02	.34	.01	.00
MAY 17...	1230	.00	.00	.0	.00	.03	.01	.18	.01	.00
JUN 07...	1030	.00	.00	.0	.02	.01	.02	.08	.00	.00
JUL 12...	1000	.00	.00	.0	.02	.03	.01	.01	.01	.00
AUG 23...	1030	.00	.00	.0	.04	.06	.03	.07	.01	.00
SEP 13...	0945	.00	.00	.0	.03	.03	.03	.21	.00	.01

DATE	TOTAL ENDRIN (UG/L)	TOTAL ETHION (UG/L)	TOTAL HEPTA- CHLOR (UG/L)	TOTAL HEPTA- CHLOR EPOXIDE (UG/L)	TOTAL LINDANE (UG/L)	TOTAL MALA- THION (UG/L)	TOTAL METHYL PARA- THION (UG/L)	TOTAL METHYL TRI- THION (UG/L)	TOTAL PARA- THION (UG/L)
NOV 10...	.01	.00	.00	.00	.00	.00	.18	.00	.31
JAN 11...	--	--	--	--	--	--	--	--	--
MAR 22...	.01	.00	.00	.00	.00	.40	.34	.00	.00
APR 19...	.01	.00	.00	.00	.00	.00	.04	.00	.00
MAY 17...	.00	.00	.00	.00	.00	.00	.04	.00	.00
JUN 07...	.00	.00	.00	.00	.00	.06	.00	.00	.00
JUL 12...	.01	.00	.00	.00	.00	.00	.01	.00	.01
AUG 23...	.00	.00	.00	.00	.01	.00	.19	.00	.07
SEP 13...	.01	.00	.00	.00	.01	.00	.98	.00	.37

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TOTAL PHOS- DRIN (UG/L)	TOTAL PCB (UG/L)	POLY- CHLO- RINATED NAPH- THA- LENES (UG/L)	SIMA- ZINE TOTAL COUL- SON COND. (UG/L)	TOTAL TOX- APHENE (UG/L)	TOTAL TRI- THION (UG/L)	TOTAL 2,4-D (UG/L)	TOTAL 2,4,5-T (UG/L)	TOTAL SILVEX (UG/L)
NOV 10...	.00	.0	.00	.00	0	.00	7.0	.00	.01
JAN 11...	.00	--	--	.00	--	--	--	--	--
MAR 22...	.00	.0	.00	.00	0	.00	.41	.00	.64
APR 19...	.04	.0	.00	.00	0	.00	.16	.00	.15
MAY 17...	.00	.0	.00	.00	0	.00	.16	.00	.10
JUN 07...	.03	.0	.00	.00	0	.00	.07	.01	.14
JUL 12...	.00	.0	.00	.00	0	.00	.25	.00	.04
AUG 23...	.00	.0	.00	.50	0	.00	.86	.01	.47
SEP 13...	.00	.0	.00	.50	0	.00	.09	.01	.07

During the 1977 water year 18 samples were collected and analysed for Azodrin, Disyston, Phorate, Carbaryl, Methomyl, Prometone, Prometryne, Protham, and Simetryne. Samples were collected on the following dates: Nov. 10, 1976, Jan. 11, Mar. 22, Apr. 19, May 17, June 7, July 12, Aug. 23, and Sept. 13, 1977. Compounds were detected only in the following samples:

DATE	TIME	AZODRIN (UG/L)	PROMETONE (UG/L)	PROMETRYNE (UG/L)	DISYSTON (UG/L)	PHORATE (UG/L)
JAN 11...	1300		1.2			
MAR 22...	1000					0.04
APR 19...	1245				0.06	
JUN 07...	1030				0.01	
JUL 12...	1000	0.38				
AUG 23...	1030	0.30		1.0		

10254970 NEW RIVER AT INTERNATIONAL BOUNDARY, AT CALEXICO, CA  
(National stream-quality accounting network station)

LOCATION.--Lat 32°39'57", long 115°30'08", in NE¼SW¼SE¼ sec.14, T.17 S., R.14 E., Imperial County, at gaging station at Second Street Bridge, 0.2 mi (0.3 km) downstream from international boundary, and 0.2 mi (0.3 km) west of Calexico.

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1969 to 1971, 1973 to current year.

CHEMICAL ANALYSES: August 1969 to July 1971, February 1973 to current year.

WATER TEMPERATURES: Water year 1974 to current year.

SEDIMENT RECORDS: Water year 1975 to current year (partial-record station).

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1973 to current year.

WATER TEMPERATURES: October 1973 to current year.

INSTRUMENTATION.--Specific-conductance recorder since October 1973. Temperature recorder since October 1973.

REMARKS.--Periods of missing conductivity and temperature data due to equipment malfunction or fouled probe. Discrepancy between total and dissolved concentrations due to analytical techniques.

COOPERATION.--The letter "A" following a date indicates chemical-quality data that was furnished by Regional Water Quality Control Board, Colorado River Basin Region. Discharge records were furnished by Imperial Irrigation District.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum recorded, in excess of 10,000 micromhos June 19 to July 2, 1976, May 19, June 30, July 1, 20, 1977; minimum recorded, 2,240 micromhos Oct. 31, 1976.

WATER TEMPERATURES: Maximum recorded, 36.5°C Sept. 13, 14, 1976; minimum recorded, 11.0°C Feb. 22, 1975.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum recorded, in excess of 10,000 micromhos May 19, June 30, July 1, 20; minimum recorded, 2,240 micromhos Oct. 31.

WATER TEMPERATURES: Maximum recorded, 34.5°C July 22; minimum recorded, 11.5°C Jan. 13-15.

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L)	DIS- SOLVED SOLIDS (TONS PER AC-FT)	DIS- SOLVED SOLIDS (TONS PER DAY)
OCT									
06... A	1130	110	7030	7.6	25.0	4580	4240	6.23	1360
12...	1400	108	--	--	26.5	--	--	--	--
12...	1500	108	6800	7.3	26.5	4410	4400	6.00	1290
NOV									
03... A	1130	141	6310	7.9	25.0	3980	3820	5.41	1520
09...	1400	143	6430	8.0	20.5	4110	4020	5.59	1590
DEC									
01... A	1215	108	7440	8.0	14.0	4770	4490	6.49	1390
07...	0900	134	6800	8.1	11.5	4730	4690	6.43	1710
JAN									
05... A	1145	201	7260	8.0	14.0	4640	4350	6.31	2520
10...	1400	191	7210	8.3	13.5	4510	4310	6.13	2330
12... A	1240	215	6040	--	--	--	--	--	--
FEB									
02... A	1200	210	6400	7.9	15.5	4110	3880	5.59	2330
22...	1330	146	7470	8.1	19.5	4880	4760	6.64	1920
MAR									
02... A	1130	155	7490	7.9	--	4940	4560	6.72	2070
21...	1630	170	7200	8.1	20.5	4970	4760	6.76	2280
APR									
06... A	1120	183	7940	7.8	20.0	5260	4840	7.15	2600
18...	1400	195	7200	7.8	25.5	5030	--	6.84	2650
MAY									
04... A	1130	180	8050	7.5	--	5330	4890	7.25	2590
09...	1710	156	7500	7.7	23.0	--	--	--	--
09...	1830	153	7510	7.8	22.6	--	--	--	--
09...	1915	153	7540	7.6	22.3	--	--	--	--
09...	2000	159	7560	7.7	22.0	--	--	--	--
09...	2045	159	7580	8.0	21.7	--	--	--	--
09...	2130	159	7600	7.7	21.5	--	--	--	--
09...	2215	159	7600	7.7	21.3	--	--	--	--
09...	2300	159	7670	7.7	21.1	--	--	--	--
09...	2345	158	7670	7.6	21.0	--	--	--	--
10...	0030	158	7890	7.5	20.8	--	--	--	--
10...	0115	157	7960	7.6	20.4	--	--	--	--
10...	0200	155	8080	7.5	20.0	--	--	--	--
10...	0245	155	8130	8.2	19.6	--	--	--	--
10...	0330	155	8150	7.5	19.4	--	--	--	--
10...	0420	159	8170	7.4	19.0	--	--	--	--
10...	0500	159	8140	7.3	18.9	--	--	--	--

10254970 NEW RIVER AT INTERNATIONAL BOUNDARY, AT CALEXICO, CA--Continued

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TOTAL NON- FILT- RABLE RESIDUE (MG/L)
MAY						
10...	0545	159	7940	7.4	18.6	--
10...	0630	159	7860	7.3	18.4	--
10...	0715	151	7780	7.3	18.3	--
10...	0820	151	7650	7.5	18.4	--
10...	0910	158	7620	7.5	18.7	32
10...	1030	156	8040	7.6	19.5	--
10...	1115	155	8160	7.6	20.0	--
10...	1200	155	8230	7.6	20.5	--
10...	1245	155	8180	7.4	21.0	--
10...	1330	161	7700	7.4	21.6	--
10...	1415	167	8130	7.4	21.9	48
10...	1530	158	8040	7.4	22.4	--
10...	1615	156	8010	7.6	22.5	--
10...	1700	153	8030	7.4	22.5	--
10...	1745	153	8080	7.6	22.5	--
10...	1830	161	8100	7.6	22.5	--
10...	2000	159	8190	7.6	22.2	--
10...	2045	159	8140	7.6	22.0	--
10...	2130	157	8160	7.6	21.9	--
10...	2215	154	8180	7.6	21.7	--
10...	2300	153	8200	7.5	21.5	--
10...	2345	152	8200	7.6	21.4	--
11...	0030	152	8220	7.4	21.1	--
11...	0115	151	8440	7.4	20.9	--
11...	0200	150	8410	7.4	20.7	--
11...	0300	148	8380	7.4	20.4	35
11...	0415	149	8400	7.4	20.0	--
11...	0500	150	8400	7.5	19.6	--
11...	0545	150	8350	7.4	19.4	--
11...	0630	149	8300	7.4	19.1	--
11...	0715	145	8500	7.6	19.0	--
11...	0815	144	8350	7.5	18.2	--
11...	0900	144	8350	7.6	19.5	--
11...	0945	144	8200	7.7	19.9	--
11...	1030	144	8150	7.6	20.4	--
11...	1115	144	8200	7.5	20.8	--
11...	1200	144	8050	7.6	21.4	--
11...	1245	144	8000	7.6	21.8	--
11...	1330	157	8000	7.6	22.2	--



10254970 NEW RIVER AT INTERNATIONAL BOUNDARY, AT CALEXICO, CA--Continued

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TOTAL NON- FILT- RABLE RESIDUE (MG/L)
MAY						
11...	1415	147	8000	7.6	22.6	--
11...	1500	144	8000	7.6	22.9	--
11...	1545	144	8000	7.7	23.1	--
11...	1630	151	8000	7.6	23.2	--
11...	1715	154	8100	7.7	23.2	--
11...	1800	141	8100	7.6	23.2	--
11...	1915	140	8100	7.5	23.0	--
11...	2015	144	8100	7.6	22.8	--
11...	2120	144	8150	7.6	22.6	--
11...	2205	144	8150	7.5	22.4	--
11...	2250	155	8150	7.5	22.1	--
11...	2335	155	8150	7.5	22.0	--
11...	2345	155	--	--	--	--
12...	0015	146	8200	7.5	21.8	--
12...	0100	146	8200	7.5	21.8	--
12...	0145	146	8200	7.7	21.6	--
12...	0230	144	8300	7.6	21.6	--
12...	0315	144	8200	7.6	21.1	--
12...	0415	144	8400	7.7	20.7	--
12...	0500	144	8300	7.7	20.3	--
12...	0545	144	8200	7.6	20.0	--
12...	0630	144	8300	7.7	19.8	--
12...	0715	140	8200	7.7	19.7	--
12...	0800	137	8500	7.6	19.6	110
12...	0850	137	8400	7.6	19.7	--
12...	0905	137	8400	7.9	19.7	--
12...	0920	137	8400	8.8	19.8	170
12...	0922	137	8400	8.8	19.8	--
12...	0927	136	8450	8.8	19.8	--
12...	0930	136	8450	8.8	19.8	--
12...	0932	136	8450	8.8	19.8	--
12...	0937	136	8450	8.6	19.8	--
12...	0942	136	8400	8.6	19.8	--
12...	0947	136	--	--	--	--
12...	0950	136	8250	8.3	19.8	72
12...	0955	136	8200	8.1	19.8	--
12...	1000	136	8200	7.9	19.8	50
12...	1002	136	8200	7.9	19.8	--
12...	1008	135	8200	7.8	19.9	--

10254970 NEW RIVER AT INTERNATIONAL BOUNDARY, AT CALEXICO, CA--Continued

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

		INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH  (UNITS)	TEMPER- ATURE (DEG C)	TOTAL NON- FILT- RABLE RESIDUE (MG/L)			
DATE	TIME								
MAY									
12...	1105	136	8100	7.7	21.0	--			
12...	1340	146	8000	7.7	20.8	--			
12...	1445	146	8000	7.7	20.8	--			
12...	1515	150	8050	7.6	20.7	--			
12...	1545	143	8000	7.7	20.7	38			
12...	1615	143	8000	7.7	20.6	--			
12...	1645	145	8000	7.7	20.5	--			
12...	1715	145	8050	7.8	20.3	52			
12...	1745	145	--	--	--	--			
12...	1815	146	8000	7.8	20.2	--			
12...	1830	146	8000	7.7	20.2	--			
12...	1845	146	8000	7.7	20.2	--			
12...	1915	146	8050	7.7	20.2	--			
12...	2000	147	8100	7.7	20.1	--			
12...	2030	147	8000	7.7	20.0	--			
12...	2100	143	8000	7.7	20.0	--			
12...	2130	143	8000	7.8	19.9	50			
12...	2200	143	8000	7.8	19.9	--			
12...	2230	143	8000	7.7	19.8	--			
12...	2300	143	8000	7.7	19.5	--			
12...	2330	143	8000	7.7	19.3	--			
12...	2335	155	--	--	--	--			
12...	2345	141	8000	7.6	19.1	--			
12...	2400	141	8300	7.7	19.1	--			
13...	0030	141	8400	7.8	18.8	--			
13...	0100	147	8500	7.7	18.8	--			
13...	0130	147	8500	7.7	18.5	--			
13...	0200	146	8500	7.7	18.4	--			
13...	0230	146	8550	7.7	18.3	--			
13...	0300	145	8500	7.7	18.3	--			
13...	0345	146	8500	7.7	18.1	--			
13...	0430	146	8500	7.7	18.1	--			
13...	0515	147	8450	7.6	17.9	--			
13...	0600	148	8400	7.6	17.8	--			
13...	0645	145	8250	7.6	17.9	--			
13...	0730	145	8200	7.6	17.9	--			
13...	0815	135	8200	7.7	18.0	--			
13...	0900	132	8000	7.7	18.3	--			
13...	0945	132	--	--	--	--			
DATE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH  (UNITS)	TEMPER- ATURE (DEG C)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L)	DIS- SOLVED SOLIDS (TONS PER AC-FT)	DIS- SOLVED SOLIDS (TONS PER DAY)
MAY									
13...	1030	132	7650	7.7	19.3	--	--	--	--
16...	1445	159	8400	7.4	22.0	5500	5380	7.48	2360
JUN									
01...A	1150	120	8960	8.0	29.0	5870	5480	7.98	1900
06...	1430	124	8400	7.7	30.0	5340	4860	7.26	1790
JUL									
06...A	1030	106	7930	7.7	30.0	5240	4870	7.13	1500
11...	1400	129	8200	7.4	31.5	5200	4930	7.07	1810
AUG									
03...A	1110	107	8370	7.7	30.5	5490	5160	7.47	1590
22...	1400	208	6400	7.4	31.0	4120	3970	5.60	2310
SEF									
07...A	1135	122	8860	8.4	31.5	5630	5430	7.66	1860
12...	1405	117	8400	7.7	30.5	5240	5020	7.13	1660

10254970 NEW RIVER AT INTERNATIONAL BOUNDARY, AT CALEXICO, CA--Continued

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

		INSTAN- TANFOUS DIS- CHARGE (CFS)	TUR- BID- ITY (JTU)	FECAL COLI- FORM .7UM-MF (COL./ 100 ML)	FECAL STREP- TOCOCCI KF AGAR (COL. PER 100 ML)	HARD- NESS (CA,MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	
OCT													
06... A	1130	110	--	9000000	--	1140	886	240	132	1100	66	14	
12... A	1500	108	9	3700000	4700000	1100	790	240	120	1100	67	14	
NOV													
03... A	1130	141	--	3600000	--	1000	762	222	108	980	66	13	
09... A	1400	143	8	4900000	3600000	1000	710	220	110	1000	67	14	
DEC													
01... A	1215	108	--	1100000	--	1110	872	254	116	1180	68	15	
07... A	0900	134	0	5600000	--	1200	910	250	130	1200	67	15	
JAN													
05... A	1145	201	--	11000000	--	1160	919	264	122	1110	66	14	
10... A	1400	191	15	5500000	5500000	1100	860	250	120	1100	67	14	
12... A	1240	215	--	11000000	--	--	--	--	--	--	--	--	
FEB													
02... A	1200	210	--	16000000	--	1090	856	242	118	980	65	13	
22... A	1330	146	30	36000000	9600000	1300	1000	290	150	1200	65	14	
MAR													
02... A	1130	155	--	21000000	--	1300	1040	280	146	1145	64	14	
21... A	1630	170	20	20000000	9200000	1400	1100	300	150	1200	65	14	
APR													
06... A	1120	183	--	21000000	--	1420	1170	312	156	1180	63	14	
18... A	1400	195	10	780000	5800000	--	--	--	--	--	--	--	
MAY													
04... A	1130	180	--	46000000	--	1330	1080	290	148	1230	65	15	
16... A	1445	159	10	2700000	4600000	1400	1100	300	160	1400	67	16	
JUN													
01... A	1150	120	--	90000000	--	1280	1060	274	145	1460	69	18	
06... A	1430	124	15	--	20000000	1300	1000	270	150	1300	67	16	
JUL													
06... A	1030	106	--	100000000	--	1220	992	264	137	1270	67	16	
11... A	1400	129	20	10000000	11000000	1200	950	260	140	1300	68	16	
AUG													
03... A	1110	107	--	812000000	--	1290	1056	270	150	1350	68	16	
22... A	1400	208	90	68000000	3900000	1200	950	260	130	1000	64	13	
SEP													
07... A	1135	122	--	19000000	--	1320	1050	280	151	1440	68	17	
12... A	1405	117	15	85500000	4900000	1200	940	240	140	1300	68	17	
DATE		DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	ALKA- LINITY AS CACO3 (MG/L)	CARBON DIOXIDE (CO2) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SiO2) (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)
OCT													
06... A	50	310	0	254	12	740	1810	.5	18	--	--	--	--
12... A	53	372	0	305	30	780	1900	.6	22	.01	--	--	--
NOV													
03... A	60	290	0	238	5.8	695	1590	.8	16	--	--	--	--
09... A	69	352	0	289	5.6	700	1700	.6	18	.02	5.6	4.8	--
DEC													
01... A	90	290	0	238	4.6	710	1980	.7	18	--	--	--	--
07... A	99	299	0	245	3.8	740	2100	.5	22	.84	--	--	--
JAN													
05... A	72	294	0	241	4.7	740	1880	.4	18	--	--	--	--
10... A	67	314	0	258	2.5	780	1800	.7	21	6.6	3.1	4.7	--
12... A	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
02... A	46	286	0	235	5.8	740	1600	.6	15	--	--	--	--
22... A	71	417	0	342	5.3	820	2000	.6	21	.03	--	--	--
MAR													
02... A	58	314	0	258	6.3	835	1930	.4	14	--	--	--	--
21... A	53	318	0	260	4.0	870	2000	.7	17	.78	1.1	3.8	--
APR													
06... A	57	304	0	249	7.7	945	2025	.5	16	--	--	--	--
18... A	--	360	0	300	9.1	1100	1900	.8	18	.47	2.4	2.6	--
MAY													
04... A	80	310	0	254	16	890	2080	.9	19	--	--	--	--
16... A	92	370	0	300	24	920	2300	.7	22	.11	--	--	--
JUN													
01... A	120	272	0	223	4.4	870	2450	.9	22	--	--	--	--
06... A	82	330	0	270	11	860	2000	.8	25	.05	.49	3.3	--
JUL													
06... A	87	278	0	228	8.9	865	2080	1.2	24	--	--	--	--
11... A	90	340	0	279	22	840	2100	.7	23	.00	.45	3.7	--
AUG													
03... A	91	286	0	235	9.1	875	2250	1.0	29	--	--	--	--
22... A	43	280	0	230	18	770	1600	.6	19	.78	.94	2.3	--
SEP													
07... A	100	332	4	279	2.2	890	2375	1.0	30	--	--	--	--
12... A	100	290	0	240	9.3	850	2200	.8	33	4.0	1.6	2.2	--

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

10254970 NEW RIVER AT INTERNATIONAL BOUNDARY, AT CALEXICO, CA--Continued

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TOTAL ORGANIC NITRO- GEN (N) (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (NO3) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	DIS- SOLVED ORTHO- PHOS- PHORUS (P) (MG/L)	DIS- SOLVED ORTHO- PHOS- PHATE (PO4) (MG/L)	DIS- SOLVED BORON (B) (UG/L)	TOTAL IRON (FE) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)	TOTAL ORGANIC CARBON (C) (MG/L)	TOTAL PHYTO- PLANK- TON (CELLS PER ML)
OCT												
06... A	--	--	--	--	--	--	--	--	--	--	--	--
12...	--	6.4	6.4	28	2.0	--	--	--	1500	80	75	--
NOV												
03... A	--	--	--	--	--	--	--	--	--	--	--	--
09...	3.0	7.8	7.8	35	2.4	1.4	4.3	1500	--	70	--	180000
DEC												
01... A	--	--	--	--	--	--	--	--	--	--	--	--
07...	--	4.1	4.9	22	.00	--	--	--	690	40	.0	36000
JAN												
05... A	--	--	--	--	--	--	--	--	--	--	--	--
10...	1.3	6.0	13	56	1.4	1.1	3.4	1600	--	80	--	--
12... A	--	--	--	--	--	--	--	--	--	--	--	--
FEB												
02... A	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	.14	.17	.75	1.9	--	--	--	--	--	--	7400
MAR												
02... A	--	--	--	--	--	--	--	--	--	--	--	--
21...	.00	3.2	4.0	18	1.6	1.2	3.7	1600	790	60	25	--
APR												
06... A	--	--	--	--	--	--	--	--	--	--	--	--
18...	4.0	6.6	7.1	31	1.6	.95	2.9	1500	--	--	--	--
MAY												
04... A	--	--	--	--	--	--	--	--	--	--	--	--
16...	--	8.1	8.2	36	1.9	--	--	--	1200	130	38	--
JUN												
01... A	--	--	--	--	--	--	--	--	--	--	--	--
06...	6.2	9.5	9.6	42	2.0	.96	2.9	1900	--	60	--	--
JUL												
06... A	--	--	--	--	--	--	--	--	--	--	--	--
11...	1.2	4.9	4.9	22	1.9	.80	2.5	1900	--	80	--	110000
AUG												
03... A	--	--	--	--	--	--	--	--	--	--	--	--
22...	8.7	11	12	52	1.6	.42	1.3	1200	8900	140	35	13000
SEP												
07... A	--	--	--	--	--	--	--	--	--	--	--	--
12...	2.5	4.7	8.7	39	1.0	.38	1.2	2100	--	30	--	--

10254970 NEW RIVER AT INTERNATIONAL BOUNDARY, AT CALEXICO, CA--Continued

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	TOTAL ARSENIC (AS) (UG/L)	SUS- PENDED ARSENIC (AS) (UG/L)	DIS- SOLVED ARSENIC (AS) (UG/L)	TOTAL CAD- MIUM (CD) (UG/L)	SUS- PENDED CAD- MIUM (CD) (UG/L)	DIS- SOLVED CAD- MIUM (CD) (UG/L)	TOTAL CHRO- MIUM (CR) (UG/L)	SUS- PENDED CHRO- MIUM (CR) (UG/L)	DIS- SOLVED CHRO- MIUM (CR) (UG/L)	TOTAL COBALT (CO) (UG/L)
OCT											
12...	1500	15	2	13	10	10	0	20	10	10	50
DEC											
07...	0900	34	4	30	20	18	2	10	10	0	<50
MAR											
21...	1630	15	0	15	10	9	1	0	0	0	<50
MAY											
16...	1445	27	0	28	10	9	1	10	0	10	<50
AUG											
22...	1400	18	14	4	10	8	2	10	10	0	<50

DATE	SUS- PENDED COBALT (CO) (UG/L)	DIS- SOLVED COBALT (CO) (UG/L)	TOTAL COPPER (CU) (UG/L)	SUS- PENDED COPPER (CU) (UG/L)	DIS- SOLVED COPPER (CU) (UG/L)	TOTAL LEAD (PB) (UG/L)	SUS- PENDED LEAD (PB) (UG/L)	DIS- SOLVED LEAD (PB) (UG/L)	TOTAL MAN- GANESE (MN) (UG/L)	SUS- PENDED MAN- GANESE (MN) (UG/L)
OCT										
12...	50	0	40	35	5	100	77	23	160	10
DEC										
07...	50	0	20	18	2	100	88	12	140	10
MAR										
21...	<50	0	20	13	7	100	96	4	180	20
MAY										
16...	<50	0	30	29	1	100	92	8	180	30
AUG										
22...	<49	1	70	64	6	100	85	15	470	240

DATE	DIS- SOLVED MAN- GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	SUS- PENDED MERCURY (HG) (UG/L)	DIS- SOLVED MERCURY (HG) (UG/L)	TOTAL SELE- NIUM (SE) (UG/L)	SUS- PENDED SELE- NIUM (SE) (UG/L)	DIS- SOLVED SELE- NIUM (SE) (UG/L)	TOTAL ZINC (ZN) (UG/L)	SUS- PENDED ZINC (ZN) (UG/L)	DIS- SOLVED ZINC (ZN) (UG/L)
OCT										
12...	150	--	--	.0	2	0	2	280	140	140
DEC										
07...	130	.0	.0	.0	--	--	2	50	20	30
MAR										
21...	160	23	23	.0	4	1	3	210	170	40
MAY										
16...	150	.0	.0	.0	2	1	1	250	200	50
AUG										
22...	230	.1	.1	.0	3	2	1	200	150	50

10254970 NEW RIVER AT INTERNATIONAL BOUNDARY, AT CALEXICO, CA--Continued

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	TOTAL PCB (UG/L)	TOTAL ALDRIN (UG/L)	TOTAL ATRA- ZINE (UG/L)	TOTAL CHLOR- DANE (UG/L)	TOTAL DDO (UG/L)	TOTAL DDE (UG/L)	TOTAL DDT (UG/L)	TOTAL DI- AZINON (UG/L)
NOV 09...	1400	.0	.00	.00	.0	.06	.00	.12	.37
DEC 07...	0900	.0	.00	.00	.0	.04	.03	.04	.05
JAN 10...	1400	.0	.00	.00	.0	.02	.01	.08	.11
MAR 21...	1630	.0	.00	.00	.0	.04	.01	.10	.19
APR 18...	1400	.0	.00	--	.0	.04	.01	.21	.08
MAY 16...	1445	ND	ND	--	ND	.07	.03	.11	.29
JUN 06...	1430	.0	.00	--	.0	.00	.03	.02	.03
JUL 11...	1400	.0	.00	--	.1	.12	.03	.24	.46

DATE	TOTAL DI- ELDRIN (UG/L)	TOTAL ENDO- SULFAN (UG/L)	TOTAL ENDRIN (UG/L)	TOTAL ETHION (UG/L)	TOTAL HEPTA- CHLOR (UG/L)	TOTAL HEPTA- CHLOR EPOXIDE (UG/L)	TOTAL LINDANE (UG/L)	TOTAL MALA- THION (UG/L)	TOTAL METHYL PARA- THION (UG/L)
NOV 09...	.14	.01	.00	.00	.00	.00	.00	.00	.00
DEC 07...	.00	.00	.05	.00	.00	.00	.00	.02	.00
JAN 10...	.12	.00	.00	.00	.00	.00	.05	.71	.00
MAR 21...	.01	.00	.00	.00	.00	.00	.00	.08	.03
APR 18...	.05	.00	.00	.00	.00	.00	.03	.38	.00
MAY 16...	.02	ND	ND	ND	ND	ND	ND	.79	ND
JUN 06...	.01	.00	.01	.00	.01	.01	.01	.06	.01
JUL 11...	.02	.00	.01	.00	.00	.00	.00	.49	.00

DATE	TOTAL METHYL TRI- THION (UG/L)	TOTAL PARA- THION (UG/L)	TOTAL PHOS- DRIN (UG/L)	POLY- CHLO- RINATED NAPH- THA- LENES (UG/L)	TOTAL TOX- APHENE (UG/L)	TOTAL TRI- THION (UG/L)	TOTAL 2,4-D (UG/L)	TOTAL 2,4,5-T (UG/L)	TOTAL SILVEX (UG/L)
NOV 09...	.00	.00	.00	.00	0	.00	.02	.00	.00
DEC 07...	.00	.00	--	.00	0	.00	.00	.00	.00
JAN 10...	.00	.00	.00	.00	0	.00	.00	.00	.00
MAR 21...	.00	.00	.00	.00	0	.00	.02	.00	.00
APR 18...	.00	.00	--	.00	0	.00	.00	.00	.00
MAY 16...	ND	ND	--	ND	ND	ND	ND	ND	--
JUN 06...	.00	.01	--	.00	0	.00	.00	.00	.00
JUL 11...	.00	.00	.00	.00	0	.00	.04	.00	.00

10254970 NEW RIVER AT INTERNATIONAL BOUNDARY, AT CALEXICO, CA--Continued

## QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

## PHYTOPLANKTON

DATE TIME	OCT 12,76 1500	NOV 9,76 1400	DEC 7,76 0900	JAN 10,77 1200	FEB 22,77 1330
TOTAL CELLS/ML	96000	180000	36000	29000	7400
DIVERSITY: DIVISION	0.2	0.4	1.2	1.2	1.6
..CLASS	0.2	0.4	1.2	1.2	1.6
...ORDER	0.5	1.3	1.6	1.3	2.2
...FAMILY	0.5	1.3	1.7	1.4	2.6
....GENUS	0.5	1.3	1.7	1.4	2.7

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)										
..CHLOROPHYCEAE										
...CHLOROCOCCALES										
....COELASTRACEAE										
....COELASTRUM	--	-	1000	1	--	-	--	-	--	-
...MICRACINIAEAE										
....GOLENKINIA	--	-	--	-	* 0		--	-	--	-
...MICRACINUM	--	-	--	-	--	-	* 0		--	-
...OOCYSTACEAE										
....ANKISTHODESMUS	1400	1	3800	2	14000# 40		8900# 30		340	5
....CHODATELLA	--	-	* 0		--	-	--	-	* 0	
....CLOSTERIOPSIS	--	-	--	-	--	-	--	-	* 0	
....DICTYOSPHAERIUM	--	-	* 0		--	-	--	-	--	-
...OOCYSTIS	--	-	--	-	--	-	--	-	--	-
....SELENASTRUM	--	-	* 0		--	-	--	-	--	-
...SCENEDESMACEAE										
....ACTINASTRUM	--	-	--	-	--	-	--	-	--	-
...SCENEDESMUS	* 0		* 0		360	1	830	3	520	7
...VOLVOCALES										
...CHLAMYDOMONADACEAE										
....CHLAMYDOMONAS	* 0		4400	2	3600	10	240	1	560	8
...ZYGNEMATALES										
...DESMIDIACEAE										
...COSMARUM	--	-	--	-	--	-	--	-	--	-
CHRYSTOPHYTA										
..BACILLARIOPHYCEAE										
...PENNALES										
...NAVICULACEAE										
....ENTOMONEIS	--	-	--	-	360	1	* 0		64	1
...CENTRALES										
...CHAETOCERACEAE										
....CHAETOCEROS	--	-	--	-	--	-	--	-	--	-
...COSCINODISCACEAE										
....CYCLOTELLA	610	1	* 0		720	2	240	1	560	8
....MELOSIRA	--	-	--	-	--	-	--	-	64	1
....STEPHANODISCUS	--	-	--	-	--	-	--	-	--	-
...RHIZOSOLENIACEAE										
....RHIZOSOLENIA	--	-	--	-	--	-	--	-	300	4
...PENNALES										
...ACHNANTHACEAE										
...RHOICOSPHEA	--	-	--	-	--	-	--	-	* 0	
...CYMBELLACEAE										
....AMPHORA	--	-	--	-	--	-	--	-	--	-
...FRAGILARIACEAE										
....SYNEDRA	--	-	--	-	--	-	* 0		* 0	
...GOMPHONEMACEAE										
....GOMPHONEMA	--	-	--	-	--	-	--	-	* 0	
...MERIDIONACEAE										
....MERIDION	--	-	--	-	--	-	--	-	--	-
...NAVICULACEAE										
....MASTOGLORIA	--	-	--	-	--	-	--	-	--	-
....NAVICULA	* 0		* 0		--	-	* 0		300	4
...NITZSCHIAEAE										
....DENTICULA	--	-	--	-	--	-	* 0		--	-
....NITZSCHIA	* 0		* 0		* 0		240	1	390	5
...XANTHOPHYCEAE										
...HETEROCOCCALES										
...CHLOROTHECIACEAE										
...OPHIOCYTIUM	* 0		--	-	--	-	--	-	--	-

See footnotes at end of table.

10254970 NEW RIVER AT INTERNATIONAL BOUNDARY, AT CALEXICO, CA--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

## PHYTOPLANKTON

## CYANOPHYTA (BLUE-GREEN ALGAE)

..CYANOPHYCEAE							
...CHROCOCCALES							
...CHROCOCCACEAE							
....AGMENELLUM	3200	3	56000#	31	--	-	-- -
....ANACYSTIS	--	-	--	-	--	-	-- -
...HORMOGONALES							170 2
...NOSTOCACEAE							
....APHANIZOMENON	--	-	--	-	--	-	-- -
...OSCILLATORIA							
....LYNGBYA	--	-	--	-	--	-	-- -
....OSCILLATORIA	90000#	93	110000#	62	16000#	45	18000# 61 3700# 50

## EUGLENOPHYTA (EUGLENOIDS)

..EUGLENOPHYCEAE							
...EUGLENALES							
...EUGLENACEAE							
....EUGLENA	--	-	*	0	*	0	590 2 300 4
....PHACUS	--	-	*	0	--	-	-- -
....TRACHELOMONAS	--	-	*	0	--	-	-- -

DATE	JUN 6,77	JUL 11,77	AUG 22,77	SEP 12,77
TIME	1430	1400	1400	1400
TOTAL CELLS/ML	110000	110000	13000	120000
DIVERSITY: DIVISION	0.9	0.3	1.3	0.5
..CLASS	0.9	0.3	1.3	0.5
...ORDER	1.5	1.2	2.2	0.7
...FAMILY	1.8	1.3	2.4	0.7
....GENUS	1.9	1.5	2.8	0.9

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)								
..CHLOROPHYCEAE								
...CHLOROCOCCALES								
...COELASTRACEAE								
....COELASTRUM	--	-	--	-	--	-	--	-
...MICRACTINIACEAE								
....GOLENKINIA	--	-	--	-	--	-	--	-
...MICRACTINIUM	880	1	--	-	--	-	--	-
...OOCYSTACEAE								
....ANKISTRODES MUS	4400	4	940	1	460	3	860	1
....CHODATELLA	--	-	--	-	--	-	--	-
....CLOSTERIOPSIS	--	-	--	-	--	-	--	-
....DICTYOSPHAERIUM	--	-	--	-	--	-	--	-
...OOCYSTIS	*	0	*	0	--	-	3400	3
....SELENASTRUM	1200	1	--	-	--	-	--	-
...SCENEDESMACEAE								
....ACTINASTRUM	7100	6	--	-	--	-	--	-
....SCENEDESMUS	3500	3	--	-	230	2	--	-
...VOLVOCALES								
...CHLAMYDOMONADACEAE								
....CHLAMYDOMONAS	--	-	*	0	--	-	--	-
...ZYGNEMATALES								
...DESMIDIACEAE								
....COSMARIMUM	--	-	*	0	--	-	--	-
CHRYSOPHYTA								
..BACILLARIOPHYCEAE								
...PENNALES								
...NAVICULACEAE								
....ENTOMONEIS	--	-	--	-	--	-	--	-
...CENTRALES								
...CHAETOCERACEAE								
....CHAETOCEROS	1100	1	*	0	--	-	*	0
...COSCINODISCACEAE								
....CYCLOTETRA	2100	2	810	1	1600	12	2300	2
....MELOSIRA	--	-	--	-	--	-	--	-
...STEPHANODISCUS	--	-	--	-	230	2	--	-
...RHIZOSOLENIACEAE								
....RHIZOSOLENIA	--	-	--	-	--	-	--	-
...PENNALES								
...ACHNANTHACEAE								
....RHOICOSPHEINIA	--	-	--	-	--	-	--	-

See footnotes at end of table.



10254970 NEW RIVER AT INTERNATIONAL BOUNDARY, AT CALEXICO, CA--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

## PHYTOPLANKTON

...CYMBELLACEAE							
...AMPHORA	--	-	--	-	340	3	* 0
...FRAGILARIACEAE							
...SYNEDRA	*	0	--	-	--	-	* 0
...GOMPHONEMATACEAE							
...GOMPHONEMA	--	-	--	-	--	-	-- -
...MERIDIONACEAE							
...MERIDION	*	0	--	-	--	-	-- -
...NAVICULACEAE							
...MASTOGLOIA	*	0	--	-	--	-	-- -
...NAVICULA	*	0	*	0	2100#	16	* 0
...NITZSCHACEAE							
...DENTICULA	--	-	--	-	--	-	-- -
...NITZSCHIA	710	1	*	0	340	3	-- -
...XANTHOPHYCEAE							
...HETEROCOCCALES							
...CHLOROTHECIACEAE							
...OPHIOCYTIUM	--	-	--	-	--	-	-- -
CYANOPHYTA (BLUE-GREEN ALGAE)							
...CYANOPHYCEAE							
...CHROCOCCOCCALES							
...CHROCOCCOCCAEAE							
...AGMENELLUM	70000#	62	60000#	53	--	-	100000# 86
...ANACYSTIS	--	-	1500	1	4700#	35	4300 4
...HORMOGONALES							
...NOSTOCACEAE							
...APHANIZOMENON	--	-	--	-	--	-	3400 3
...OSCILLATORIACEAE							
...LYNGBYA	--	-	2300	2	1500	11	-- -
...OSCILLATORIA	20000#	18	45000#	40	1700	13	-- -
EUGLENOPHYTA (EUGLENOIDS)							
...EUGLENOPHYCEAE							
...EUGLENALES							
...EUGLENACEAE							
...EUGLENA	*	0	--	-	110	1	-- -
...PHACUS	*	0	--	-	--	-	-- -
...TRACHELONONAS	*	0	--	-	--	-	* 0

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%

\* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

10254970 NEW RIVER AT INTERNATIONAL BOUNDARY, AT CALEXICO, CA--Continued

## SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	5520	5000	5310	5770	4330	4960	---	---	---	5880	5820	5850
2	5260	4300	4890	6440	4240	4990	7010	6750	6890	5930	5800	5870
3	6120	4140	5070	6690	5890	6220	6870	6610	6750	5900	5790	5850
4	6120	5870	6010	5980	5400	5670	7000	6800	6930	5950	5790	5870
5	6300	5790	5960	5410	4840	5030	6970	6760	6870	5830	5000	5340
6	6260	5440	5930	6200	4770	5480	6900	6570	6760	5120	5000	5060
7	6460	3170	5070	5880	5420	5650	6740	6100	6390	5050	4980	5010
8	6400	5670	6030	5680	5440	5580	6200	5900	6020	---	---	---
9	5660	4490	5110	5580	3490	4530	5910	5590	5720	---	---	---
10	6510	2390	4580	3420	2890	3080	5610	5310	5440	6380	5970	6200
11	4530	2940	3490	5800	2830	4940	5730	5290	5560	6670	6030	6340
12	---	---	---	6000	5860	5940	5700	5180	5390	6770	5950	6420
13	---	---	---	5910	5490	5730	---	---	---	7180	5880	6580
14	---	---	---	5530	4300	4860	---	---	---	7980	6640	6970
15	6080	3550	5290	4280	3450	3930	---	---	---	8290	6390	7370
16	3700	3290	3500	5240	2960	4220	---	---	---	7940	6850	7380
17	5860	3380	4480	5200	4060	4860	---	---	---	7970	5760	6590
18	3770	3330	3530	4030	3570	3770	7270	6900	7110	5970	5830	5920
19	6890	3310	5420	3570	3220	3380	6900	6590	6770	6000	5870	5950
20	6060	3580	4600	3760	3020	3330	7030	5530	6610	6020	5940	5990
21	4750	2960	3730	6500	3600	5160	7030	6630	6800	6000	5880	5950
22	6800	2640	4280	6270	5860	6070	7160	6640	6790	5980	5850	5920
23	6790	6380	6650	5790	5220	5550	6650	6100	6380	6040	5880	5960
24	6710	5140	6050	---	---	---	7420	5980	6580	6090	5970	6040
25	5700	4390	4980	---	---	---	7090	6890	6970	6140	6060	6100
26	5510	3370	4760	---	---	---	6920	6610	6750	6530	6010	6090
27	5420	4920	5110	---	---	---	6680	5770	6280	6140	5750	5940
28	5090	4670	4890	---	---	---	6180	6050	6110	5790	5570	5690
29	---	---	---	6320	5060	5490	6150	5970	6070	5560	5380	5470
30	---	---	---	5180	4080	4840	6090	5880	5970	5430	5190	5310
31	6800	2240	4940	---	---	---	5910	5770	5850	5290	5010	5140
MONTH	6890	2240	4990	6690	2830	4930	7420	5180	6390	8290	4980	6010
DAY	FEBRUARY			MARCH			APRIL			MAY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	5780	4950	5280	7360	6050	6570	6010	5700	5840	8340	5430	6340
2	6000	5780	5900	7680	6520	6780	5690	5310	5500	8430	7790	8030
3	6490	5900	6010	6890	6180	6570	5310	4960	5170	8060	7830	7970
4	6050	5800	5930	6340	6190	6270	6790	4980	5510	8780	8100	8510
5	5950	5680	5810	6400	6260	6330	6860	6530	6700	8960	8030	8500
6	5810	5430	5630	6420	5990	6170	6500	5760	6150	8810	8390	8560
7	5540	5030	5350	6000	5800	5880	7830	4700	5990	9070	8740	8890
8	5910	4810	5280	5840	5330	5580	7840	7430	7610	9010	8380	8720
9	5880	5670	5780	6840	5200	5980	7890	7130	7490	8770	6930	7960
10	5690	5430	5560	6420	4980	5510	8040	7720	7920	7280	6850	7110
11	5480	5150	5320	---	---	---	8510	7520	7850	7330	6930	7130
12	5170	4830	5020	---	---	---	7820	7020	7480	9060	6510	8150
13	---	---	---	---	---	---	7020	6410	6780	8750	8200	8460
14	---	---	---	7110	5900	6490	7170	4260	5710	8470	8030	8290
15	---	---	---	5880	5230	5460	---	---	---	8330	7080	7880
16	---	---	---	5330	3690	5120	---	---	---	7510	6690	7170
17	7780	7540	7650	5090	3710	4330	6520	4600	5730	---	---	---
18	---	---	---	4620	4430	4520	6280	5620	5890	---	---	---
19	---	---	---	5500	4050	4750	6500	4980	5550	9750	7510	8180
20	---	---	---	7640	4780	6190	---	---	---	7520	6490	7070
21	6900	6080	6580	6610	6140	6430	6410	5580	5990	---	---	---
22	7280	5650	6380	7240	6150	6370	6050	5680	5830	---	---	---
23	---	---	---	6270	5830	6090	5850	5130	5540	---	---	---
24	7160	7060	7110	6460	6180	6300	5600	5360	5510	8010	7500	7740
25	7470	6450	6930	6570	6340	6440	5530	4990	5220	7750	6430	7280
26	6460	5060	5850	6650	6460	6570	5100	4690	4870	6390	5240	5740
27	6320	5020	5670	6580	6120	6350	6230	4480	5080	5250	5020	5140
28	7180	5930	6290	6080	5640	5840	6910	5550	6060	7860	4630	6450
29	---	---	---	5660	4970	5420	7200	4920	6210	7800	7160	7450
30	---	---	---	6110	5050	5240	8540	6110	6870	7340	6900	7120
31	---	---	---	5990	4690	5210	---	---	---	---	---	---
MONTH	---	---	---	7680	3690	5880	8540	4260	6150	9750	4630	7590

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	33.0	30.5	31.5	22.5	20.5	21.5				---	---	---
2	30.0	28.5	29.5	22.5	20.5	21.5				---	---	---
3	30.0	28.0	29.0	22.5	20.0	21.5				---	---	---
4	30.0	28.0	29.0	22.5	20.0	21.0				---	---	---
5	30.0	28.0	29.0	22.5	19.5	21.0				---	---	---
6	30.0	27.5	28.5	22.5	20.0	21.0				---	---	---
7	29.0	27.5	28.0	22.0	20.0	21.0				---	---	---
8	29.0	27.5	28.0	22.0	20.0	21.0				---	---	---
9	28.0	27.0	27.5	21.0	19.0	20.0				---	---	---
10	27.5	25.5	26.5	21.0	19.0	20.0				---	---	---
11	28.5	26.0	27.0	---	---	---				---	---	---
12	28.0	26.0	26.5	---	---	---				13.5	12.5	13.0
13	27.0	25.5	26.5	---	---	---				13.5	11.5	12.5
14	27.5	24.5	26.0	---	---	---				13.5	11.5	12.5
15	27.0	25.0	26.0	---	---	---				14.0	11.5	12.5
16	26.5	25.0	26.0	---	---	---				14.5	12.0	13.0
17	27.0	25.0	26.0	---	---	---				15.0	12.0	13.5
18	26.5	25.0	26.0	---	---	---				14.5	12.0	13.5
19	26.5	24.5	25.5	---	---	---				15.5	13.0	14.5
20	26.0	24.0	25.0	---	---	---				15.5	14.0	15.0
21	25.5	23.5	24.5	---	---	---				17.0	15.0	16.0
22	25.0	23.5	24.0	---	---	---				17.5	15.5	16.5
23	24.5	22.5	23.5	---	---	---				18.0	16.0	17.0
24	25.0	23.0	24.0	---	---	---				18.0	16.0	17.0
25	25.0	22.5	24.0	---	---	---				17.0	16.0	16.5
26	23.5	22.5	23.0	---	---	---				17.5	16.0	16.5
27	23.0	21.5	22.0	---	---	---				17.0	15.0	16.5
28	23.0	21.0	22.0	---	---	---				17.5	15.5	16.5
29	22.5	20.5	21.5	---	---	---				17.0	16.0	16.5
30	22.5	21.0	22.0	---	---	---				16.5	15.0	16.0
31	22.5	20.5	21.5	---	---	---				16.5	14.5	15.5
MONTH	33.0	20.5	26.0	---	---	---				---	---	---



10254970 NEW RIVER AT INTERNATIONAL BOUNDARY, AT CALEXICO, CA--Continued

## PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	TEMPER- ATURE (DEG C)	SUS- PENDE SEDI- MENT (MG/L)	SUS- PENDE SEDI- MENT DIS- CHARGE (T/DAY)	SUS. SED. SIEVE DIAM. % FINER THAN .062 MM
OCT						
12...	1400	108	26.5	83	24	30
NOV						
09...	1400	143	20.5	128	49	19
DEC						
07...	0900	134	11.5	84	30	39
JAN						
10...	1400	191	13.5	92	47	55
FEB						
22...	1330	146	19.5	592	233	6
MAR						
21...	1630	170	20.5	73	34	62
APR						
18...	1400	195	25.5	71	37	58
MAY						
16...	1445	159	22.0	56	24	68
JUN						
06...	1430	124	30.0	45	15	85
JUL						
11...	1400	129	31.5	255	89	79
AUG						
22...	1400	208	31.0	437	245	94
SEP						
12...	1405	117	30.5	101	32	34

## SALTON SEA BASIN

10255502 NEW RIVER AT DROP 4, AT BRAWLEY, CA

## WATER-QUALITY RECORDS

LOCATION.--Lat 32°59'27", long 115°33'07°, in NE¼NW¼SW¼ sec.29, T.13 S., R.14 E., Imperial County, on left bank at concrete weir, 1.4 mi (2.3 km) northwest of post office at Brawley.

## PERIOD OF RECORD.--

CHEMICAL ANALYSES: October 1976 to September 1977.

REMARKS.--Data for the 1975 and 1976 water years are published with the 1977 water year.

COOPERATION.--Discharges were furnished by Imperial Irrigation District.

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	TIME	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	HARDNESS (CA, MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)	DIS-SOLVED CALCIUM (CA) (MG/L)	DIS-SOLVED MAGNESIUM (MG)	DIS-SOLVED SODIUM (NA) (MG/L)	PERCENT SODIUM	SODIUM ADSORPTION RATIO	DIS-SOLVED POTASSIUM (K) (MG/L)
AUG 26...	1515	5390	8.0	26.5	980	770	210	110	830	64	12	22
SEP 18...	0830	5000	7.2	28.0	1000	810	210	120	770	62	11	21

DATE	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	ALKALINITY AS CaCO3 (MG/L)	CARBON DIOXIDE (CO2) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLORIDE (CL) (MG/L)	DIS-SOLVED FLUORIDE (F) (MG/L)	DIS-SOLVED SILICA (SI02) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	TOTAL NITRATE PLUS NITRITE (N) (MG/L)
AUG 26...	257	0	211	4.1	800	1300	.6	15	3420	4.65	1.7
SEP 18...	252	0	207	25	850	1100	.6	16	3220	4.38	1.5

DATE	DIS-SOLVED NITRITE PLUS NITRATE (N) (MG/L)	TOTAL AMMONIA NITROGEN (N) (MG/L)	TOTAL ORGANIC NITROGEN (N) (MG/L)	TOTAL KJELDAHL NITROGEN (N) (MG/L)	TOTAL NITROGEN (N) (MG/L)	TOTAL NITROGEN (NO3) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	DIS-SOLVED ORTHO. PHOSPHORUS (P) (MG/L)	DIS-SOLVED ORTHO. PHOSPHATE (P04) (MG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED IRON (FE) (UG/L)
AUG 26...	1.7	1.9	1.3	3.2	4.9	22	1.3	.14	.43	1300	70
SEP 18...	1.5	1.5	2.2	3.7	5.2	23	.47	.24	.74	1300	30

10255502 NEW RIVER AT DROP 4, AT BRAWLEY, CA--Continued

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	TIME	TOTAL ALDRIN (UG/L)	TOTAL CHLOR- DANE (UG/L)	TOTAL DDD (UG/L)	TOTAL DDE (UG/L)	TOTAL DDT (UG/L)	TOTAL DI- AZINON (UG/L)	TOTAL DI- ELDRIN (UG/L)	TOTAL ENDRIN (UG/L)	TOTAL ETHION (UG/L)	TOTAL HEPTA- CHLOR (UG/L)	TOTAL HEPTA- CHLOR EPOXIDE (UG/L)
AUG 26...	1515	.00	.0	.01	.00	.01	.03	.01	.00	.00	.00	.00
SEP 18...	0830	.00	.0	.01	.01	.00	.09	.01	.00	.00	.00	.00

DATE	TOTAL LINDANE (UG/L)	TOTAL MALA- THION (UG/L)	TOTAL METHYL PARA- THION (UG/L)	TOTAL METHYL TRI- THION (UG/L)	TOTAL PARA- THION (UG/L)	TOTAL PCB (UG/L)	TOTAL TOX- APHENE (UG/L)	TOTAL TRI- THION (UG/L)	TOTAL 2,4-D (UG/L)	TOTAL 2,4,5-T (UG/L)	TOTAL SILVEX (UG/L)
AUG 26...	.00	.00	.02	.00	.05	.0	0	.00	1.6	.00	.00
SEP 18...	.00	.00	.09	.00	.29	.0	0	.00	.00	.00	.00

10255502 NEW RIVER AT DROP 4, AT BRAWLEY, CA--Continued

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (CA+MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO
OCT 07...	1000	450	4530	7.7	22.0	910	690	200	100	800	65	12
NOV 19...	0900	335	4400	7.8	14.5	1000	780	230	110	1000	67	14
DEC 09...	0900	311	7600	7.6	14.0	1100	880	250	120	1200	69	16
JAN 28...	0900	315	7800	7.5	13.0	1100	880	260	120	1100	67	14
FEB 18...	0830	383	5600	7.7	16.0	1300	1100	280	150	1100	64	13
MAR 17...	0900	415	7900	7.3	17.0	1100	830	230	120	1000	66	13
APR 21...	0845	445	6220	7.3	20.0	1100	830	230	120	940	65	13
MAY 12...	0900	464	5504	7.8	24.5	1100	860	240	120	950	64	13
JUN 02...	0915	348	6150	7.6	25.0	1200	990	260	140	970	63	12
JUL 28...	0630	--	5920	7.2	29.0	1000	800	220	110	910	65	13
SEP 22...	1330	300	8700	7.8	27.5	1400	1200	310	160	1400	67	16

DATE	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	ALKA- LINITY AS CACO3 (MG/L)	CARBON DIOXIDE (CO2) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SI02) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DIS- SOLVED SOLIDS (TONS PER AC-FT)	DIS- SOLVED SOLIDS (TONS PER DAY)
OCT 07...	21	267	0	219	8.5	800	1200	.6	14	3280	4.46	3990
NOV 19...	35	305	0	250	7.7	760	1500	.7	15	3810	5.18	3450
DEC 09...	45	296	0	243	12	840	1800	.6	17	4430	6.02	3720
JAN 28...	31	316	0	259	16	870	1700	.6	15	4260	5.79	3620
FEB 18...	34	286	0	235	9.1	840	1900	.6	14	4470	6.08	4620
MAR 17...	35	290	0	238	21	910	1500	.5	15	3970	5.40	4450
APR 21...	32	285	0	234	20	980	1400	.6	14	3880	5.28	4660
MAY 12...	38	280	0	230	7.1	820	1400	.7	16	3730	5.07	4670
JUN 02...	30	286	0	235	11	890	1500	.8	17	3960	5.39	3720
JUL 28...	48	249	0	204	25	850	1500	.6	18	3800	5.17	--
SEP 22...	32	346	0	284	8.8	1000	2300	.7	19	5410	7.36	4380



10255502 NEW RIVER AT DROP 4, AT BRAWLEY, CA--Continued  
 CHEMICAL ANALYSES, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TOTAL ENDRIN (UG/L)	TOTAL ETHION (UG/L)	TOTAL HEPTA- CHLOR (UG/L)	TOTAL HEPTA- CHLOR EPOXIDE (UG/L)	DIS- SOLVED LINDANE (UG/L)	TOTAL LINDANE (UG/L)	TOTAL MALA- THION (UG/L)	TOTAL METHYL PARA- THION (UG/L)	TOTAL METHYL TRI- THION (UG/L)
OCT 07...	.00	.00	.00	.00	--	.00	.00	.58	.00
NOV 19...	.00	.00	.00	.00	--	--	.00	.06	.00
DEC 09...	.00	.00	.00	.00	--	.00	.44	.01	.00
JAN 28...	.00	.00	.00	.00	--	.00	.00	.00	.00
FEB 18...	.00	.00	.00	.00	--	.00	.00	.00	.00
MAR 17...	.00	.00	.00	.00	--	.00	.00	.10	.00
APR 21...	.00	.00	.00	.00	--	.00	.00	.00	.00
MAY 12...	.00	.00	.00	.00	--	.00	.00	.00	.00
JUN 02...	.00	.00	.00	.00	.14	.00	--	.00	.00
30...	.00	.00	.00	.00	--	.00	.00	.00	.00
JUL 28...	.00	.00	.00	.00	--	.00	.16	.00	.00
SEP 22...	.00	.00	.00	.00	--	.00	.20	.16	.00

DATE	TOTAL PARA- THION (UG/L)	TOTAL PCB (UG/L)	POLY- CHLO- RINATED NAPH- THA- LENES (UG/L)	TOTAL TOX- APHENE (UG/L)	TOTAL TRI- THION (UG/L)	TOTAL 2,4-D (UG/L)	TOTAL 2,4,5-T (UG/L)	TOTAL SILVEX (UG/L)
OCT 07...	.92	.0	.00	0	.00	.31	.00	.01
NOV 19...	.16	.0	.00	0	.00	.81	.00	.01
DEC 09...	.02	.0	.00	0	.00	.03	.00	.00
JAN 28...	.00	.0	.00	0	.00	1.3	.00	1.8
FEB 18...	.00	.0	.00	0	.00	.14	.03	.86
MAR 17...	.00	.0	.00	0	.00	.78	.00	.19
APR 21...	.00	.0	.00	0	.00	.29	.00	.06
MAY 12...	.00	.0	.00	0	.00	.47	.00	.08
JUN 02...	.00	.0	.00	0	.00	.09	.00	.04
30...	.00	.0	.00	0	.00	.01	.00	.01
JUL 28...	.00	.0	.00	0	.00	2.0	.00	.19
SEP 22...	.35	.0	.00	0	.00	.29	.00	.19

10255502 NEW RIVER AT DROP 4, AT BRAWLEY, CA--Continued

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL ORGANIC NITRO- GEN (N) (MG/L)	TOTAL KJEL- DAHL- NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (NO3) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	DIS- SOLVED ORTHO- PHOS- PHORUS (P) (MG/L)	DIS- SOLVED ORTHO- PHOS- PHATE (PO4) (MG/L)	DIS- SOLVED BORON (B) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)
OCT 07...	1.8	1.8	2.8	1.5	4.3	6.1	27	.99	.20	.61	1200	30
NOV 19...	1.8	1.8	2.8	.00	.00	1.8	8.0	.74	.41	1.3	1600	0
DEC 09...	2.7	2.6	3.0	1.6	4.6	7.3	32	.76	.43	1.3	1800	20
JAN 28...	3.9	2.0	.20	4.6	4.8	8.7	39	1.4	.43	1.3	1800	50
FEB 18...	9.2	2.0	.92	1.8	2.7	12	53	.45	.28	.86	1600	60
MAR 17...	2.8	2.7	1.2	2.9	4.1	6.9	31	1.0	.37	1.1	1600	130
APR 21...	4.2	4.1	.32	1.6	1.9	6.1	27	.58	.16	.49	1400	80
MAY 12...	1.4	1.4	1.5	1.0	2.5	3.9	17	1.1	.39	1.2	940	70
JUN 02...	1.8	1.3	1.7	1.6	3.3	5.1	23	1.2	.67	2.1	1100	70
JUL 28...	1.1	3.6	3.1	2.3	5.4	6.5	29	1.4	.39	1.2	1400	60
SEP 22...	4.4	3.9	1.6	2.0	3.6	8.0	35	1.2	.34	1.0	2300	60

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	TOTAL ALDRIN (UG/L)	TOTAL CHLOR- DANE (UG/L)	TOTAL DDD (UG/L)	TOTAL DDE (UG/L)	TOTAL DDT (UG/L)	TOTAL DI- AZINON (UG/L)	TOTAL DI- ELDRIN (UG/L)
OCT 07...	1000	.00	.0	.00	.00	.00	.09	.00
NOV 19...	0900	.00	.0	.01	.01	.01	.09	.01
DEC 09...	0900	.00	.0	.00	.01	.00	.10	.01
JAN 28...	0900	.00	.0	.02	.00	.04	.75	.01
FEB 18...	0830	.00	.0	.01	.01	.00	.07	.01
MAR 17...	0900	.00	.0	.00	.00	.00	.25	.01
APR 21...	0845	.00	.0	.01	.01	.00	.05	.01
MAY 12...	0900	.00	.0	.01	.00	.00	.05	.01
JUN 02...	0915	.00	.0	.00	.00	.00	.04	.01
JUN 30...	0715	.00	.0	.01	.01	.00	.00	.01
JUL 28...	0630	.00	.0	.03	.02	.03	.14	.02
SEP 22...	1330	.00	.0	.01	.01	.00	.04	.01

10255502 NEW RIVER AT DROP 4, AT BRAWLEY, CA--Continued

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	INSTANTANEOUS DIS-CHARGE (CFS)	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	HARDNESS (CA, MG/L)	NON-CARBONATE HARDNESS (MG/L)	DIS-SOLVED CALCIUM (CA) (MG/L)	DIS-SOLVED MAGNESIUM (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	PERCENT SODIUM	SODIUM ADSORPTION RATIO
OCT 13...	0915	323	5980	7.2	23.0	1100	840	240	120	1000	66	13
NOV 10...	0930	272	6900	7.6	19.5	1200	940	260	130	1200	68	15
JAN 11...	0930	--	7000	7.2	11.5	1200	920	250	130	1100	66	14
MAR 22...	1250	408	6500	7.6	19.0	1200	960	270	130	1100	66	14
APR 19...	0900	427	6000	7.3	23.0	1100	910	240	130	960	64	12
MAY 17...	0900	360	6600	7.3	18.5	1100	890	250	120	1100	67	14
JUN 07...	0700	339	6400	7.4	27.0	1100	840	230	120	1000	66	13
JUL 12...	0600	339	5800	7.6	28.0	1000	780	220	110	1000	67	14
AUG 23...	0700	500	6150	7.3	30.0	1100	820	210	130	1000	67	13
SEP 13...	0705	--	7580	7.6	28.0	1100	870	240	130	1300	70	17

DATE	DIS-SOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	ALKALINITY AS CaCO3 (MG/L)	CARBON DIOXIDE (CO2) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLORIDE (CL) (MG/L)	DIS-SOLVED FLUORIDE (F) (MG/L)	DIS-SOLVED SILICA (SiO2) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)
OCT 13...	28	303	0	249	31	860	1600	.6	19	4040	5.49	3520
NOV 10...	40	296	0	243	12	870	1900	.7	18	4590	6.24	3370
JAN 11...	38	290	0	238	29	850	1800	.7	19	4350	5.92	--
MAR 22...	32	306	0	250	12	880	1700	.7	16	4300	5.85	4740
APR 19...	29	280	0	230	22	930	1400	.7	15	3850	5.24	4440
MAY 17...	44	280	0	230	22	900	1700	.6	17	4280	5.82	4160
JUN 07...	38	280	0	230	18	840	1500	.7	18	3890	5.29	3560
JUL 12...	39	270	0	220	11	830	1500	.7	22	3860	5.25	3530
AUG 23...	28	290	0	240	23	860	1600	.7	18	4000	5.44	5400
SEP 13...	54	320	0	260	13	940	2000	.7	24	4860	6.61	--

DATE	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	DIS-SOLVED NITRITE PLUS NITRATE (N) (MG/L)	TOTAL AMMONIA NITROGEN (N) (MG/L)	TOTAL ORGANIC NITROGEN (N) (MG/L)	TOTAL KJEL-DAHL NITROGEN (N) (MG/L)	TOTAL NITROGEN (N) (MG/L)	TOTAL NITROGEN (NO3) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	DIS-SOLVED ORTHO. PHOSPHORUS (P) (MG/L)	DIS-SOLVED ORTHO. PHOSPHATE (PO4) (MG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED IRON (FE) (UG/L)
OCT 13...	4.0	4.0	1.9	1.3	3.2	7.2	32	.97	.51	1.6	1700	60
NOV 10...	4.2	4.3	2.6	1.2	3.8	8.0	35	.93	.56	1.7	1800	120
JAN 11...	5.3	4.6	3.1	.70	3.8	9.1	40	.67	.51	1.6	1800	50
MAR 22...	4.4	4.4	2.1	.10	2.2	6.6	29	.88	.36	1.1	1600	30
APR 19...	1.9	1.9	1.7	1.7	3.4	5.3	23	.50	.59	1.8	1400	100
MAY 17...	2.2	2.1	1.6	2.1	3.7	5.9	26	.89	.28	.86	1600	20
JUN 07...	.65	.71	2.0	2.6	4.6	5.3	23	1.0	.43	1.3	1600	80
JUL 12...	.97	1.1	2.1	2.1	4.2	5.2	23	.99	.42	1.3	1600	50
AUG 23...	1.8	1.8	1.6	7.3	8.9	11	47	1.9	.17	.52	1600	50
SEP 13...	2.5	2.4	.77	1.6	2.4	4.9	22	.61	.15	.46	2100	20

10255502 NEW RIVER AT DROP 4, AT BRAWLEY, CA--Continued

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TOTAL ENDRIN (UG/L)	TOTAL ETHION (UG/L)	TOTAL HEPTA- CHLOR (UG/L)	TOTAL HEPTA- CHLOR EPOXIDE (UG/L)	TOTAL LINDANE (UG/L)	TOTAL MALA- THION (UG/L)	TOTAL METHYL PARA- THION (UG/L)	TOTAL METHYL TRI- THION (UG/L)	TOTAL PARA- THION (UG/L)
OCT 13...	.00	.00	.00	.00	.02	.17	.07	.00	.25
JAN 11...	.00	.00	.00	.00	.01	.10	.00	.00	.02
MAR 22...	.00	.00	.00	.00	.00	.04	.06	.00	.02
APR 19...	.00	.00	.00	.00	.00	.04	.04	.00	.03
MAY 17...	.00	.00	.00	.00	.00	.05	.00	.00	.00
JUN 07...	.00	.00	.00	.00	.01	.50	.00	.00	.00
JUL 12...	.00	.00	.00	.00	.00	.01	.00	.00	.02
AUG 23...	.00	.00	.00	.00	.00	.00	.02	.00	.08
SEP 13...	.00	.00	.00	.00	.01	.00	.56	.00	.03

DATE	TOTAL PHOS- DRIN (UG/L)	TOTAL PCB (UG/L)	POLY- CHLO- RINATED NAPH- THA- LENES (UG/L)	SIMA- ZINE TOTAL COUL- SON COND. (UG/L)	TOTAL TOX- APHENE (UG/L)	TOTAL TRI- THION (UG/L)	TOTAL 2,4-D (UG/L)	TOTAL 2,4,5-T (UG/L)	TOTAL SILVEX (UG/L)
OCT 13...	--	.0	.00	--	0	.00	.02	.00	.03
JAN 11...	.00	.0	.00	.00	0	.00	.00	.00	.00
MAR 22...	.00	.0	.00	.60	0	.00	.33	.00	.23
APR 19...	.05	.0	.00	.00	0	.00	.14	.00	.12
MAY 17...	.00	.0	.00	.30	0	.00	.05	.00	.07
JUN 07...	.15	.0	.00	.00	0	.00	.09	.00	.08
JUL 12...	.00	.0	.00	.00	0	.00	.32	.00	.02
AUG 23...	.00	.0	.00	1.1	0	.00	.29	.00	.18
SEP 13...	.00	.0	.00	1.2	0	.00	.00	.00	.01

## SALTON SEA BASIN

177

10255550 NEW RIVER NEAR WESTMORLAND, CA

LOCATION.--Lat 33°06'17", long 115°39'49", in SW¼SW¼SW¼ sec.19, T.12 S., R.13 E., Imperial County, on right bank 3.5 mi (5.6 km) upstream from mouth, and 5.2 mi (8.4 km) northwest of Westmorland.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1943 to current year. Monthly discharge only for January 1943 to September 1960, published in WSP 1734.

GAGE.--Water-stage recorder. Altitude of gage is 220 ft (67 m) below mean sea level (from topographic map).

REMARKS.--Records good below 1500 ft<sup>3</sup>/s (42.5 m<sup>3</sup>/s), fair above. Discharge represents seepage and return flow from irrigated areas.

COOPERATION.--Records furnished by Imperial Irrigation District and reviewed by the Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 3,000 ft<sup>3</sup>/s (85 m<sup>3</sup>/s) Aug. 17-18, 1977 (estimated by Imperial Irrigation District); minimum daily, 293 ft<sup>3</sup>/s (8.30 m<sup>3</sup>/s) Jan. 6, 1967.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	523	509	498	517	528	566	647	632	586	502	638	487
2	540	538	511	519	534	525	651	668	566	515	611	515
3	519	521	505	532	532	538	657	636	559	551	592	538
4	505	532	525	563	521	534	632	622	588	551	568	547
5	515	536	538	542	525	540	666	621	568	545	536	557
6	523	534	498	536	511	519	676	651	566	561	530	528
7	504	542	511	543	507	509	689	647	576	578	551	504
8	502	532	490	523	502	511	697	638	586	521	570	472
9	538	494	525	511	507	526	714	676	600	519	574	468
10	542	483	498	481	521	547	687	651	584	555	578	463
11	543	530	487	485	540	586	662	649	551	570	549	435
12	566	588	507	488	557	559	698	647	553	588	532	427
13	538	628	505	507	557	590	712	622	557	566	578	436
14	530	540	504	570	519	598	691	622	536	545	576	444
15	525	505	528	563	542	619	664	632	536	551	800	453
16	504	483	525	555	538	632	697	634	530	588	2000	442
17	511	448	517	521	570	645	702	632	523	590	3000	449
18	519	431	504	507	543	664	740	615	509	572	3000	446
19	538	438	525	481	551	640	722	617	504	584	2820	473
20	538	427	504	511	523	596	726	624	494	586	2000	488
21	545	431	509	519	543	598	697	621	515	586	1200	492
22	649	417	538	534	542	584	695	613	505	590	821	523
23	607	422	570	519	532	557	714	630	492	578	700	513
24	555	433	564	507	557	584	762	632	477	586	582	504
25	534	442	513	543	570	619	734	603	494	624	543	519
26	557	420	472	517	542	621	697	626	483	578	498	500
27	545	427	481	542	559	660	670	601	479	564	473	494
28	549	429	505	543	549	649	659	594	500	590	463	507
29	487	444	502	532	---	657	630	580	487	607	459	542
30	492	502	500	530	---	643	617	561	473	594	477	543
31	507	---	509	513	---	643	---	536	---	609	492	---
TOTAL	16550	14606	15868	16254	15022	18259	20605	19333	15977	17644	28311	14709
MEAN	534	487	512	524	537	589	687	624	533	569	913	490
MAX	649	628	570	570	570	664	762	676	600	624	3000	557
MIN	487	417	472	481	502	509	617	536	473	502	459	427
AC-FT	32830	28970	31470	32240	29800	36220	40870	38350	31690	35000	56150	29180
CAL YR 1976	TOTAL	219370	MEAN 599	MAX 2500	MIN 388	AC-FT 435100						
WTR YR 1977	TOTAL	213138	MEAN 584	MAX 3000	MIN 417	AC-FT 422800						

## SALTON SEA BASIN

10255550 NEW RIVER NEAR WESTMORLAND, CA--Continued

## WATER-QUALITY RECORDS

## PERIOD OF RECORD.--

CHEMICAL ANALYSES: October 1963 to September 1964, water year 1967 (partial-record station), August 1969 to June 1971, August 1975 to current year.

REMARKS.--Data for the 1975 and 1976 water years are published with the 1977 water year.

COOPERATION.--Discharges were furnished by Imperial Irrigation District.

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

		INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH	TEMPER- ATURE (DEG C)	HARD- NESS (CA,MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	
AUG 27... SEP 18...	1130 1030	519 643	4730 4700	8.1 7.1	26.0 28.5	940 950	730 740	210 220	100 97	720 690	62 61	10 9.8	
DATE	TIME	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	ALKA- LINITY AS CACO3 (MG/L)	CARBON DIOXIDE (CO2) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SIO2) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L)	DIS- SOLVED SOLIDS (TONS PER AC-FT)	DIS- SOLVED SOLIDS (TONS PER DAY)
AUG 27... SEP 18...	19 19		254 258	0 0	208 212	3.2 33	820 900	1100 1000	.6 .6	13 14	3120 3080	4.24 4.19	4370 5350
DATE	TIME	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL ORGANIC NITRO- GEN (N) (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (NO3) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	DIS- SOLVED ORTHO. PHOS- PHORUS (P) (MG/L)	DIS- SOLVED ORTHO. PHOS- PHATE (PO4) (MG/L)	DIS- SOLVED BORON (B) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)
AUG 27... SEP 18...	3.4 3.1		3.4 3.0	.82 .50	1.7 3.9	2.5 4.4	5.9 7.5	26 33	.86 1.3	.24 .23	.74 .71	1000 990	90 20
DATE	TIME	TOTAL ALDRIN (UG/L)	TOTAL CHLOR- DANE (UG/L)	TOTAL DDD (UG/L)	TOTAL DDE (UG/L)	TOTAL DDT (UG/L)	TOTAL DI- AZINON (UG/L)	TOTAL DI- ELDRIN (UG/L)	TOTAL ENDRIN (UG/L)	TOTAL ETHION (UG/L)	TOTAL HEPTA- CHLOR (UG/L)	TOTAL HEPTA- CHLOR EPOXIDE (UG/L)	
AUG 27... SEP 18...	1130 1030	.00 .00	.0 .0	.00 .10	.00 .10	.00 .00	.02 .18	.03 .10	.01 .00	.00 .00	.00 .00	.00 .00	
DATE	TIME	TOTAL LINDANE (UG/L)	TOTAL MALA- THON (UG/L)	TOTAL METHYL PARA- THON (UG/L)	TOTAL METHYL TRI- THON (UG/L)	TOTAL PARA- THON (UG/L)	TOTAL PCB (UG/L)	TOTAL TOX- APHENE (UG/L)	TOTAL TRI- THON (UG/L)	TOTAL 2,4-D (UG/L)	TOTAL 2,4,5-T (UG/L)	TOTAL SILVEX (UG/L)	
AUG 27... SEP 18...		.00 .00	.00 .00	.03 .05	.00 .00	.06 .34	.0 .0	0 0	.00 .00	11 .37	.04 .00	.00 .05	

10255550 NEW RIVER NEAR WESTMORLAND, CA--Continued

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (CA, MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO
OCT 07...	1115	659	4440	8.0	22.0	980	760	210	110	720	61	10
NOV 19...	1145	543	4850	8.0	14.5	1000	790	230	110	830	63	11
DEC 09...	1000	498	6300	7.7	15.0	1100	820	240	110	980	66	13
JAN 28...	1100	523	6400	7.7	13.5	1000	800	230	110	820	63	11
FEB 18...	1100	509	6600	7.8	16.0	1200	990	260	140	1000	63	12
MAR 17...	1100	698	4760	8.0	17.5	940	730	210	100	700	61	10
APR 21...	1030	628	5320	7.4	20.0	940	720	210	100	710	61	10
MAY 12...	1030	748	4666	7.7	24.5	1000	780	220	110	740	61	10
JUN 02...	1045	619	5400	7.6	25.0	980	750	210	110	780	63	11
JUL 28...	0800	607	5439	7.5	29.0	1000	790	220	110	850	64	12
SEP 22...	0915	463	7200	7.8	25.4	1300	1100	280	150	1100	64	13

DATE	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	ALKA- LINITY AS CACO3 (MG/L)	CARBON DIOXIDE (CO2) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SI02) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L)	DIS- SOLVED SOLIDS (TONS PER AC-FT)	DIS- SOLVED SOLIDS (TONS PER DAY)
OCT 07...	19	265	0	217	4.2	840	1000	.6	13	3060	4.16	5450
NOV 19...	27	285	0	234	4.6	740	1300	.6	14	3410	4.64	5000
DEC 09...	36	280	0	230	8.9	730	1500	.6	15	3770	5.13	5070
JAN 28...	22	276	0	226	8.8	760	1300	.6	12	3410	4.64	4820
FEB 18...	28	285	0	234	7.2	860	1700	.6	12	4160	5.66	5720
MAR 17...	23	257	0	211	3.7	880	1000	.7	12	3070	4.18	5790
APR 21...	25	269	0	221	17	820	1000	.5	12	3030	4.12	5140
MAY 12...	32	274	0	225	8.7	830	1200	.6	14	3300	4.49	--
JUN 02...	23	275	0	226	--	840	1200	.8	15	3330	4.53	5570
JUL 28...	38	263	0	216	13	780	1300	.6	17	3470	4.72	--
SEP 22...	26	311	0	255	7.9	940	1700	.6	16	4390	5.97	--

## CHEMICAL ANALYSFS, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL ORGANIC NITRO- GEN (N) (MG/L)	TOTAL KJEL- DAHL- NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (NO3) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	DIS- SOLVED ORTHO- PHOS- PHORUS (P) (MG/L)	DIS- SOLVED ORTHO- PHOS- PHATE (PO4) (MG/L)	DIS- SOLVED BORON (B) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)
OCT 07...	3.4	3.4	1.9	1.6	3.5	6.9	31	.71	.11	.34	1100	30
NOV 19...	3.8	3.7	1.0	2.2	3.2	7.0	31	.38	.18	.55	1300	0
DEC 09...	4.5	4.3	2.0	2.0	4.0	8.5	38	.64	.31	.95	1500	30
JAN 28...	4.3	4.2	1.6	2.4	4.0	8.3	37	.55	.17	.52	1200	100
FEB 18...	3.5	3.5	1.1	2.4	3.5	7.0	31	.58	.14	.43	1400	30
MAR 17...	4.6	4.4	.98	2.7	3.7	8.3	37	.79	.22	.67	1000	40
APR 21...	4.7	4.7	.08	1.9	2.0	6.7	30	.82	.27	.83	1100	40
MAY 12...	2.9	2.8	.68	1.2	1.9	4.8	21	.81	.33	1.0	610	50
JUN 02...	3.8	3.4	.54	1.9	2.4	6.2	27	1.2	.59	1.8	660	70
JUL 28...	5.5	4.4	.52	2.3	2.8	8.3	37	.96	.26	.80	1300	40
SEP 22...	5.5	4.3	1.1	1.4	2.5	8.0	35	1.1	.62	1.9	1700	60

DATE	TIME	TOTAL ALDRIN (UG/L)	TOTAL CHLOR- DANE (UG/L)	TOTAL DDD (UG/L)	TOTAL DDE (UG/L)	TOTAL DDT (UG/L)	TOTAL DI- AZINON (UG/L)	TOTAL DI- ELDRIN (UG/L)
OCT 07...	1115	.00	.0	.01	.02	.02	.12	.01
NOV 19...	1145	.00	.0	.01	.01	.01	.19	.01
DEC 09...	1000	.00	.0	.00	.00	.00	.03	.01
JAN 28...	1100	.00	.0	.01	.01	.01	2.0	.01
FEB 18...	1100	.00	.0	.01	.01	.01	.07	.02
MAR 17...	1100	.00	.0	.00	.00	.00	.37	.02
APR 21...	1030	.00	.0	.02	.02	.09	.06	.01
MAY 12...	1030	.00	.0	.01	.00	.00	.03	.01
JUN 02...	1045	.00	.0	.00	.01	.00	.04	.01
JUL 28...	0800	.00	.0	.01	.01	.00	.06	.01
SEP 22...	0915	.00	.0	.00	.01	.00	.00	.01



10255550 NEW RIVER NEAR WESTMORLAND, CA--Continued

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TOTAL ENDRIN (UG/L)	TOTAL ETHION (UG/L)	TOTAL HEPTA- CHLOR (UG/L)	TOTAL HEPTA- CHLOR EPOXIDE (UG/L)	DIS- SOLVED LINDANE (UG/L)	TOTAL LINDANE (UG/L)	TOTAL MALA- THION (UG/L)	TOTAL METHYL PARA- THION (UG/L)	TOTAL METHYL TRI- THION (UG/L)
OCT									
07...	.00	.00	.00	.00	--	.00	.00	.15	.00
NOV									
19...	.00	.00	.00	.00	--	.01	.26	.08	.00
DEC									
09...	.00	.00	.00	.00	--	.00	.06	.02	.00
JAN									
28...	.00	.00	.00	.00	--	.00	.00	.00	.00
FEB									
18...	.00	.00	.00	.00	--	.00	.00	.00	.00
MAR									
17...	.00	.00	.00	.00	--	.00	.00	.05	.00
APR									
21...	.00	.00	.00	.00	--	.00	.00	.00	.00
MAY									
12...	.00	.00	.00	.00	--	.00	.00	.00	.00
JUN									
02...	.00	.00	.00	.00	.14	.00	--	.00	.00
JUL									
28...	.00	.00	.00	.00	--	.00	.00	.02	.00
SEP									
22...	.00	.00	.00	.00	--	.00	.04	.00	.00

DATE	TOTAL PARA- THION (UG/L)	TOTAL PCB (UG/L)	POLY- CHLO- RINATED NAPH- THA- LENES (UG/L)	TOTAL TOX- APHENE (UG/L)	TOTAL TRI- THION (UG/L)	TOTAL 2,4-D (UG/L)	TOTAL 2,4,5-T (UG/L)	TOTAL SILVEX (UG/L)
OCT								
07...	.46	.0	.00	0	.00	.00	.00	.00
NOV								
19...	.26	.0	.00	0	.00	2.9	.00	.00
DEC								
09...	.05	.0	.00	0	.00	.09	.00	.00
JAN								
28...	2.0	.0	.00	0	.00	.40	.00	1.2
FEB								
18...	.00	.0	.00	0	.00	.09	.01	.71
MAR								
17...	.00	.0	.00	0	.00	.04	.00	.03
APR								
21...	.00	.0	.00	0	.00	.26	.00	.07
MAY								
12...	.00	.0	.00	0	.00	.52	.00	.11
JUN								
02...	.00	.0	.00	0	.00	.12	.00	.00
JUL								
28...	.01	.0	.00	0	.00	--	--	--
SEP								
22...	.23	.3	.00	0	.00	.34	.01	.17

10255550 NEW RIVER NEAR WESTMORLAND, CA--Continued

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (CA, MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO
OCT 13...	1100	549	5650	7.7	23.5	1100	850	240	120	870	63	11
NOV 10...	1100	453	6200	7.7	19.0	1100	880	250	120	930	64	12
JAN 11...	1100	500	6700	7.8	11.0	1200	930	250	130	960	64	12
MAR 22...	0845	607	5200	7.8	17.5	1100	820	240	110	830	63	11
APR 19...	1100	756	5200	7.3	22.0	1100	850	230	120	780	61	10
MAY 17...	1030	660	5400	7.4	18.0	1000	810	230	110	780	61	11
JUN 07...	0900	601	5500	7.5	26.5	1000	770	220	110	850	64	12
JUL 12...	0800	600	5200	7.4	27.0	920	720	210	97	770	64	11
AUG 23...	0830	700	6110	7.5	30.0	1200	940	270	120	920	63	12
SEP 13...	0835	641	6695	7.5	28.0	1100	900	240	130	1100	67	14

DATE	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	ALKA- LINITY AS CACO3 (MG/L)	CARBON DIOXIDE (CO2) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SIO2) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITU- ENTS) (MG/L)	DIS- SOLVED SOLIDS (TONS PER AC-FT)	DIS- SOLVED SOLIDS (TONS PER DAY)
OCT 13...	22	294	0	241	9.4	910	1300	.6	17	3650	4.96	5410
NOV 10...	30	286	0	235	9.1	860	1500	.7	15	3880	5.28	4750
JAN 11...	32	284	0	233	7.2	840	1500	.6	17	3900	5.30	5270
MAR 22...	25	279	0	230	7.1	750	1200	.7	13	3320	4.52	5440
APR 19...	24	270	0	220	22	870	1100	.7	13	3290	4.47	6720
MAY 17...	36	270	0	220	17	840	1200	.6	15	3360	4.57	5990
JUN 07...	31	280	0	230	14	850	1200	.7	16	3430	4.66	5570
JUL 12...	28	250	0	210	16	750	1100	.7	18	3110	4.23	5040
AUG 23...	26	280	0	230	14	890	1400	.7	16	3800	5.17	5470
SEP 13...	44	290	0	240	15	950	1600	.7	20	4250	5.78	7360

10255550 NEW RIVER NEAR WESTMORLAND, CA--Continued

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL ORGANIC NITRO- GEN (N) (MG/L)	TOTAL KJEL- DAHL- NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (NO3) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	DIS- SOLVED ORTHO, PHOS- PHORUS (P) (MG/L)	DIS- SOLVED ORTHO PHOS- PHATE (PO4) (MG/L)	DIS- SOLVED BORON (B) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)
OCT 13...	5.7	6.2	.87	1.4	2.3	8.0	35	.87	.39	1.2	1300	40
NOV 10...	6.0	6.2	.74	1.7	2.4	8.4	37	.67	.36	1.1	1400	80
JAN 11...	5.5	5.7	1.9	.60	2.5	8.0	35	.72	.40	1.2	1500	40
MAR 22...	3.5	3.5	1.4	1.2	2.6	6.1	27	.95	.38	1.2	1200	30
APR 19...	4.0	4.0	.69	2.5	3.2	7.2	32	.42	.32	.98	1100	90
MAY 17...	3.7	3.7	1.2	2.0	3.2	6.9	31	.96	.37	1.1	1300	50
JUN 07...	2.6	2.7	.84	2.8	3.6	6.2	27	.94	.33	1.0	1300	30
JUL 12...	2.9	2.7	1.3	1.7	3.0	5.9	26	.85	.30	.92	1100	30
AUG 23...	3.2	3.1	1.2	3.0	4.2	7.4	33	1.8	.19	.58	1400	30
SEP 13...	3.9	3.9	.16	1.3	1.5	5.4	24	.71	.19	.58	1800	510

DATE	TIME	TOTAL ALDRIN (UG/L)	TOTAL ATRA- ZINE (UG/L)	TOTAL CHLOR- DANE (UG/L)	TOTAL DDD (UG/L)	TOTAL DDE (UG/L)	TOTAL DDT (UG/L)	TOTAL DI- AZINON (UG/L)	TOTAL DI- ELDRIN (UG/L)	TOTAL ENDO- SULFAN (UG/L)
OCT 13...	1100	.00	--	.0	.00	.01	.00	.05	.01	--
NOV 10...	1100	.00	.00	.0	.01	.01	.00	.15	.01	.10
JAN 11...	1100	.00	.00	.2	.01	.01	.02	.12	.01	.00
MAR 22...	0845	.00	.00	.0	.01	.01	.00	.34	.01	.02
APR 19...	1100	.00	.00	.0	.02	.01	.01	.23	.01	.01
MAY 17...	1030	.00	.00	.0	.01	.01	.01	.05	.01	.03
JUN 07...	0900	.00	.00	.0	.02	.01	.02	.05	.01	.00
JUL 12...	0800	.00	.00	.0	.02	.01	.01	.02	.01	.00
AUG 23...	0830	.00	.00	.0	.03	.03	.15	.05	.01	.00
SEP 13...	0830	.00	.00	.0	.01	.01	.03	.18	.01	.03

## SALTON SEA BASIN

10255550 NEW RIVER NEAR WESTMORLAND, CA--Continued

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TOTAL ENDRIN (UG/L)	TOTAL ETHION (UG/L)	TOTAL HEPTA- CHLOR (UG/L)	TOTAL HEPTA- CHLOR EPOXIDE (UG/L)	TOTAL LINDANE (UG/L)	TOTAL MALA- THION (UG/L)	TOTAL METHYL PARA- THION (UG/L)	TOTAL METHYL TRI- THION (UG/L)	TOTAL PARA- THION (UG/L)
OCT									
13...	.00	.00	.00	.00	.00	.00	.42	.00	.71
NOV									
10...	.00	.00	.00	.00	.00	.08	.06	.00	.14
JAN									
11...	.00	.00	.00	.00	.00	.68	.04	.00	.05
MAR									
22...	.00	.00	.00	.00	.00	.13	.22	.00	.02
APR									
19...	.00	.00	.00	.00	.01	.00	.11	.00	.00
MAY									
17...	.00	.00	.00	.00	.00	.02	.00	.00	.00
JUN									
07...	.00	.00	.00	.00	.00	.02	.00	.00	.00
JUL									
12...	.00	.00	.00	.00	.00	.00	.00	.00	.01
AUG									
23...	.00	.00	.00	.00	.00	.00	.02	.00	.07
SEP									
13...	.00	.00	.00	.00	.00	.00	.00	.00	.06

DATE	TOTAL PHOS- DRIN (UG/L)	TOTAL PCB (UG/L)	POLY- CHLO- RINATED NAPH- THA- LENES (UG/L)	SIMA- ZINE TOTAL COUL- SON COND. (UG/L)	TOTAL TOX- APHENE (UG/L)	TOTAL TRI- THION (UG/L)	TOTAL 2,4-D (UG/L)	TOTAL 2,4,5-T (UG/L)	TOTAL SILVEX (UG/L)
OCT									
13...	--	.0	.00	--	0	.00	1.1	.00	.03
NOV									
10...	.00	.0	.00	.00	0	.00	.82	.00	.00
JAN									
11...	.00	.0	.00	.00	0	.00	.00	.00	.95
MAR									
22...	.06	.0	.00	.00	0	.00	.23	.00	.22
APR									
19...	.02	.0	.00	.00	0	.00	.36	.00	.18
MAY									
17...	.00	.0	.00	.30	0	.00	.10	.00	.09
JUN									
07...	.02	.0	.00	.00	0	.00	.05	.00	.06
JUL									
12...	.00	.0	.00	.00	0	.00	1.1	.00	.04
AUG									
23...	.00	.0	.00	.80	0	.00	.32	.00	.21
SEP									
13...	.00	.0	.00	1.1	0	.00	.00	.00	.01

During the 1977 water year 18 samples were collected and analyzed for Azodrin, Disyston, Phorate, Carbaryl, Methomyl, Prometone, Prometryne, Propham, and Simetryne. No compounds were detected with the following exceptions:

DATE	TIME	AZODRIN (UG/L)	DISYSTON (UG/L)
MAR			
22...	0845		0.11
JUL			
12...	0800	0.40	

## 10255700 SAN FELIPE CREEK NEAR JULIAN, CA

LOCATION.--Lat 33°07'07", long 116°26'04", San Diego County, in Anza-Borrego Desert State Park, on left bank under bridge on State Highway 78 in Sentenac Canyon, 1.0 mi (1.6 km) upstream from Grapevine Canyon, and 10 mi (16 km) northeast of Julian.

DRAINAGE AREA.--89.2 mi<sup>2</sup> (231.0 km<sup>2</sup>).

PERIOD OF RECORD.--August 1958 to current year.

GAGE.--Water-stage recorder and concrete low-water control. Datum of gage is 1,872.69 ft (570.796 m) above mean sea level.

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

AVERAGE DISCHARGE.--19 years, 0.23 ft<sup>3</sup>/s (0.007 m<sup>3</sup>/s), 167 acre-ft/yr (205,900 m<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,050 ft<sup>3</sup>/s (29.7 m<sup>3</sup>/s) Aug. 22, 1967, gage height, 4.08 ft (1.244 m), from rating curve extended above 12 ft<sup>3</sup>/s (0.34 m<sup>3</sup>/s) on basis of slope-area measurement at gage height 3.50 ft (1.067 m); no flow for many days in each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 9.9 ft<sup>3</sup>/s (0.28 m<sup>3</sup>/s) Aug. 17, gage height, 1.74 ft (0.530 m), no peak above base of 50 ft<sup>3</sup>/s (1.42 m<sup>3</sup>/s); no flow many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	.06	.20	.31	.41	.36	.36	.16	.03		0	
2	0	.06	.22	.21	.38	.35	.36	.16	.01		0	
3	0	.06	.23	.77	.36	.36	.36	.16	0		0	
4	0	.06	.23	.40	.38	.36	.34	.16	0		0	
5	0	.07	.23	.28	.35	.36	.32	.19	0		0	
6	0	.07	.22	.59	.31	.36	.31	.19	0		0	
7	0	.07	.23	.65	.31	.36	.29	.19	0		0	
8	0	.08	.23	.59	.31	.41	.29	.23	0		0	
9	0	.08	.23	.32	.35	.36	.27	.53	0		0	
10	0	.08	.23	.28	.32	.36	.30	.36	0		0	
11	0	.10	.23	.27	.31	.36	.29	.27	0		0	
12	0	.24	.23	.27	.32	.36	.30	.27	0		0	
13	0	.16	.23	.27	.32	.36	.28	.27	0		0	
14	0	.14	.27	.27	.33	.36	.26	.23	0		0	
15	0	.14	.26	.27	.32	.36	.25	.23	0		0	
16	0	.12	.27	.27	.31	.44	.23	.23	0		0	
17	0	.12	.27	.26	.33	1.5	.23	.19	0		1.9	
18	0	.13	.27	.27	.32	.52	.23	.19	0		0	
19	0	.13	.27	.27	.32	.45	.23	.19	0		0	
20	0	.15	.27	.27	.31	.56	.19	.16	0		0	
21	0	.16	.27	.32	.31	.44	.19	.13	0		0	
22	0	.17	.26	.31	.31	.43	.19	.11	0		0	
23	0	.16	.29	.28	.31	.46	.19	.11	0		0	
24	0	.16	.27	.36	.36	.49	.19	.16	0		0	
25	0	.17	.28	.28	.36	.86	.16	.16	0		0	
26	.02	.19	.29	.32	.36	.77	.16	.13	0		0	
27	.02	.18	.26	.31	.36	.59	.16	.13	0		0	
28	.02	.17	.24	.31	.36	.53	.16	.11	0		0	
29	.04	.19	.27	.41	---	.47	.16	.09	0		0	
30	.05	.19	.30	.41	---	.36	.16	.07	0		0	
31	.06	---	.37	.37	---	.33	---	.05	---		0	---
TOTAL	.21	3.86	7.92	10.68	9.40	14.64	7.41	5.81	.04	0	1.9	0
MEAN	.007	.13	.26	.34	.34	.47	.25	.19	.001	0	.061	0
MAX	.06	.24	.37	.77	.41	1.5	.36	.53	.03	0	1.9	0
MIN	0	.06	.20	.21	.31	.33	.16	.05	0	0	0	0
AC-FT	.4	7.7	16	21	19	29	15	12	.08	0	3.8	0
CAL YR 1976	TOTAL	74.95	MEAN	.20	MAX	17	MIN	0	AC-FT	149		
WTR YR 1977	TOTAL	61.87	MEAN	.17	MAX	1.9	MIN	0	AC-FT	123		

## SALTON SEA BASIN

10255800 COYOTE CREEK NEAR BORREGO SPRINGS, CA

LOCATION.--Lat 33°22'06", long 116°25'14", in NE¼NE¼NE¼ sec.26, T.9 S., R.5 E., San Diego County, on left bank 0.5 mi (0.8 km) downstream from Box Canyon, 1.8 mi (2.9 km) northwest of Rancho De Anza, and 8.2 mi (13.2 km) northwest of Borrego Springs.

DRAINAGE AREA.--144 mi<sup>2</sup> (373 km<sup>2</sup>).

PERIOD OF RECORD.--October 1950 to current year. Monthly discharge only for October and November 1950, published in WSP 1734.

REVISED RECORDS.--WDR CA-72-1: 1969, 1971.

GAGE.--Water-stage recorder. Altitude of gage is 1,250 ft (381 m), from topographic map. Prior to Mar. 24, 1967, at site 0.6 mi (1.0 km) upstream at different datum.

REMARKS.--Records poor. Poor communication most of year. Diversion about 0.5 mi (0.8 km) upstream for irrigation below station since January 1973.

AVERAGE DISCHARGE.--27 years, 1.82 ft<sup>3</sup>/s (0.052 m<sup>3</sup>/s), 1,320 acre-ft/yr (1.63 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,840 ft<sup>3</sup>/s (109 m<sup>3</sup>/s) Aug. 17, 1977, gage height unknown, on basis of slope-area measurement of maximum flow; no flow at times in some years.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 50 ft<sup>3</sup>/s (1.42 m<sup>3</sup>/s) and maximum (\*) from rating curve extended above 2.0 ft<sup>3</sup>/s (0.57 m<sup>3</sup>/s) on basis of slope-area measurement at gage height 12.5 ft (3.81 m) and extended to peak:

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)
Aug. 15	1700	939 26.6	9.90 3.018
Aug. 17	Unknown	*3840 109	Unknown

Minimum daily discharge, 0.02 ft<sup>3</sup>/s (0.001 m<sup>3</sup>/s) July 10-15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.70	.53	.78	.85	.80	.85	.80	.53	.40	.03	.03	.10
2	.70	.52	.79	.90	.80	.85	.80	.51	.37	.03	.03	.10
3	.70	.51	.80	.95	.80	.90	.80	.49	.34	.03	.56	.10
4	.70	.50	.80	1.0	.80	.90	.80	.47	.31	.03	.03	.10
5	.70	.50	.80	1.2	.80	.90	.75	.45	.28	.03	.03	.10
6	.70	.50	.80	3.5	.80	.90	.75	.45	.26	.03	.03	.10
7	.70	.50	.80	1.5	.80	.90	.75	.45	.24	.03	.03	.10
8	.70	.50	.80	1.1	.80	.90	.75	.80	.22	.03	.03	.10
9	.70	.50	.80	1.0	.80	.90	.70	1.0	.20	.03	.03	.10
10	.70	.50	.80	.80	.80	.90	.70	.65	.20	.02	.03	.10
11	.70	.50	.80	.80	.80	.90	.70	.50	.18	.02	.03	.10
12	.70	1.5	.80	.80	.80	.90	.70	.45	.16	.02	.03	.10
13	.70	1.0	.80	.80	.80	.90	.65	.45	.14	.02	.03	.10
14	.70	.90	.80	.80	.80	.90	.65	.45	.12	.02	.03	.10
15	.70	.70	.80	.80	.80	.90	.65	.45	.10	.02	100	.10
16	.70	.62	.80	.80	.80	.90	.65	.45	.10	.07	2.0	.10
17	.70	.62	.80	.80	.80	1.0	.65	.45	.09	.07	420	.10
18	.70	.64	.80	.80	.80	1.1	.64	.45	.08	.06	10	.10
19	.70	.65	.80	.80	.80	1.3	.63	.44	.07	.06	1.0	.10
20	.70	.66	.80	.80	.80	1.4	.62	.44	.06	.06	.70	.10
21	.70	.67	.80	.80	.80	1.5	.61	.44	.05	.05	.60	.10
22	1.5	.68	.80	.80	.80	1.9	.60	.43	.04	.05	.50	.10
23	3.0	.69	.80	.80	.80	2.3	.59	.43	.04	.05	.40	.10
24	1.0	.70	.80	.80	.80	3.0	.58	.43	.04	.05	.30	.10
25	.60	.71	.80	.80	.80	3.0	.57	.42	.04	.05	.20	.10
26	.59	.72	.80	.95	.83	2.1	.57	.42	.04	.04	.18	.10
27	.58	.73	.80	.90	.84	1.5	.57	.42	.04	.04	.16	.10
28	.57	.75	.80	.80	.85	1.0	.56	.41	.03	.04	.14	.10
29	.56	.76	.80	.80	---	.90	.55	.41	.03	.03	.12	.10
30	.55	.77	.80	.80	---	.85	.54	.41	.03	.03	.10	.10
31	.54	---	.80	.80	---	.80	---	.40	---	.03	.10	---
TOTAL	24.19	20.03	24.77	29.85	22.54	37.95	19.88	14.95	4.30	1.17	537.45	3.00
MEAN	.78	.67	.80	.96	.81	1.22	.66	.48	.14	.038	17.3	.10
MAX	3.0	1.5	.80	3.5	.85	3.0	.80	1.0	.40	.07	420	.10
MIN	.54	.50	.78	.80	.80	.80	.54	.40	.03	.02	.03	.10
AC-FT	48	40	49	59	45	75	39	30	8.5	2.3	1070	6.0

CAL YR 1976 TOTAL 225.73 MEAN .62 MAX 25 MIN .05 AC-FT 448  
WTR YR 1977 TOTAL 740.08 MEAN 2.03 MAX 420 MIN .02 AC-FT 1470

## 10255810 BORREGO PALM CREEK NEAR BORREGO SPRINGS, CA

LOCATION.--Lat 33°16'44", long 116°25'45", in Anza-Borrego Desert State Park, San Diego County, on left bank 3.3 mi (5.3 km) northwest of Borrego Springs.

DRAINAGE AREA.--21.8 mi<sup>2</sup> (56.5 km<sup>2</sup>).

PERIOD OF RECORD.--October 1950 to current year. Prior to October 1960, published as "Palm Canyon Creek near Borrego Springs." Monthly discharge only for October to November 1950, published in WSP 1734.

GAGE.--Water-stage recorder. Altitude of gage is 1,200 ft (366 m), from topographic map.

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

AVERAGE DISCHARGE.--27 years, 0.32 ft<sup>3</sup>/s (0.009 m<sup>3</sup>/s), 232 acre-ft/yr (286,000 m<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,160 ft<sup>3</sup>/s (61.2 m<sup>3</sup>/s) Aug. 15, 1977, gage height, 7.5 ft (2.29 m) from floodmarks, on basis of slope-area measurement; no flow for several months in each year.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 15 ft<sup>3</sup>/s (0.42 m<sup>3</sup>/s) and maximum (\*), from rating curve extended above 100 ft<sup>3</sup>/s (2.84 m<sup>3</sup>/s) on basis of slope-area measurement:

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)		Gage height (ft) (m)	
Aug. 15	Unknown	*2160	61.2	7.5	2.29
Aug. 17	0100	116	3.09	4.51	1.353

Minimum daily discharge, no flow most of year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1				0	.16	.10	.20	.01		0		.01
2				0	.16	.10	.20	.01		0		.03
3				0	.16	.10	.20	.01		0		.02
4				0	.16	.12	.18	.01		0		0
5				0	.14	.12	.17	0		0		0
6				.04	.12	.12	.17	0		0		0
7				1.1	.12	.12	.16	0		0		0
8				.47	.12	.12	.15	0		0		0
9				.20	.12	.14	.15	.01		0		0
10				.10	.12	.12	.14	0		0		0
11				.05	.12	.10	.13	0		0		0
12				.03	.12	.10	.11	0		0		0
13				.03	.12	.10	.10	0		0		0
14				.03	.12	.10	.09	0		0		0
15				.03	.12	.10	.08	0		89		0
16				.05	.12	.10	.08	0			3.1	0
17				.06	.12	.24	.07	0			45	0
18				.08	.14	.14	.06	0			4.1	0
19				.09	.14	.12	.06	0			.32	0
20				.10	.14	.11	.05	0			.01	0
21				.12	.12	.13	.04	0		0		0
22				.14	.10	.13	.04	0		0		0
23				.14	.10	.13	.04	0		0		0
24				.14	.10	.14	.03	0		0		0
25				.15	.08	.54	.03	0		0		0
26				.17	.08	.50	.02	0		0		0
27				.17	.08	.32	.02	0		0		0
28				.17	.10	.30	.02	0		0		0
29				.17	---	.24	.02	0		0		0
30				.16	---	.20	.01	0		0		0
31		---		.16	---	.20	---	0	---		0	---
TOTAL	0	0	0	4.15	3.40	5.20	2.82	.05	0	0	141.53	.06
MEAN	0	0	0	.13	.12	.17	.094	.002	0	0	4.57	.002
MAX	0	0	0	1.1	.16	.54	.20	.01	0	0	89	.03
MIN	0	0	0	0	.08	.10	.01	0	0	0	0	0
AC-FT	0	0	0	8.2	6.7	10	5.6	.10	0	0	281	.1
CAL YR 1976	TOTAL	48.80	MEAN .13	MAX	7.2	MIN 0	AC-FT 97					
WTR YR 1977	TOTAL	157.21	MEAN .43	MAX	89	MIN 0	AC-FT 312					

## SALTON SEA BASIN

10255850 VALLECITO CREEK NEAR JULIAN, CA

LOCATION.--Lat 32°59'10", long 116°25'10", in SW¼NE¼ sec.1, T.14 S., R.5 E., San Diego County, on right bank  
0.2 mi (0.3 km) downstream from Cottonwood Wash, and 12.6 mi (20.3 km) southeast of Julian.

DRAINAGE AREA.--39.7 mi<sup>2</sup> (102.8 km<sup>2</sup>).

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

GAGE.--Water-stage recorder. Altitude of gage is 1,950 ft (594 m) above mean sea level (from topographic map).

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

AVERAGE DISCHARGE.--14 years, 0.13 ft<sup>3</sup>/s (0.004 m<sup>3</sup>/s), 94 acre-ft/yr (116,000 m<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,160 ft<sup>3</sup>/s (32.9 m<sup>3</sup>/s) Sept. 10, 1976, gage height, 6.30 ft (1.920 m), from rating curve extended above 0.10 ft<sup>3</sup>/s (0.003 m<sup>3</sup>/s) on basis of slope-area study of maximum flow; no flow at times in some years.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 15 ft<sup>3</sup>/s (0.43 m<sup>3</sup>/s) and maximum (\*), from rating extended above 0.10 ft<sup>3</sup>/s (0.003 m<sup>3</sup>/s) on basis of slope-area measurement of peak flow:

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)		Gage height (ft) (m)		Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)		Gage height (ft) (m)	
July 23	1900	23	0.65	2.07	0.631	Aug. 17	0130	*566	16.0	4.98	1.518
Aug. 15	1715	43	1.22	2.39	0.728						

Minimum daily discharge, 0.01 ft<sup>3</sup>/s (<0.001 m<sup>3</sup>/s) Sept. 1, 3-5, 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.05	.05	.06	.08	.05	.05	.06	.06	.03	.02	.05	.01
2	.05	.05	.06	.08	.04	.06	.06	.06	.04	.02	.05	.03
3	.05	.05	.06	.08	.05	.07	.06	.06	.02	.02	.05	.01
4	.05	.05	.08	.08	.05	.08	.06	.06	.03	.03	.05	.01
5	.05	.05	.07	.06	.05	.08	.06	.06	.02	.03	.05	.01
6	.05	.05	.06	.06	.05	.10	.06	.04	.04	.03	.05	.02
7	.05	.04	.06	.07	.04	.12	.08	.04	.04	.03	.05	.02
8	.05	.05	.05	.07	.04	.13	.08	.04	.04	.03	.05	.03
9	.06	.05	.05	.06	.04	.13	.12	.04	.04	.03	.05	.03
10	.06	.05	.05	.06	.05	.13	.15	.04	.03	.03	.05	.03
11	.07	.05	.05	.06	.05	.15	.18	.04	.04	.03	.05	.02
12	.08	.05	.04	.06	.05	.15	.15	.05	.03	.04	.05	.01
13	.08	.05	.04	.07	.05	.15	.15	.04	.03	.04	.05	.02
14	.08	.05	.04	.06	.04	.15	.15	.04	.03	.04	.05	.02
15	.08	.05	.04	.06	.05	.18	.15	.04	.04	.05	2.7	.02
16	.08	.05	.04	.05	.05	.18	.18	.04	.04	.05	28	.02
17	.08	.05	.04	.06	.04	.19	.20	.03	.04	.05	48	.02
18	.08	.05	.04	.06	.04	.17	.17	.02	.04	.05	.50	.02
19	.08	.05	.05	.06	.04	.16	.13	.03	.04	.05	.20	.02
20	.06	.05	.05	.07	.04	.19	.12	.03	.04	.06	.10	.02
21	.04	.05	.05	.08	.04	.21	.10	.03	.04	.06	.10	.02
22	.10	.05	.05	.08	.03	.19	.10	.03	.04	.06	.10	.03
23	.10	.05	.05	.06	.04	.16	.10	.03	.04	1.0	.05	.03
24	.10	.05	.05	.08	.04	.14	.10	.04	.04	.20	.05	.03
25	.12	.05	.05	.08	.05	.15	.10	.04	.04	.10	.05	.03
26	.12	.05	.05	.08	.05	.12	.10	.04	.04	.10	.05	.03
27	.10	.05	.06	.08	.06	.12	.13	.04	.03	.05	.03	.03
28	.08	.05	.05	.08	.05	.11	.09	.04	.03	.05	.03	.03
29	.06	.05	.06	.08	---	.11	.08	.03	.03	.05	.02	.03
30	.06	.06	.07	.07	---	.06	.08	.02	.02	.05	.02	.03
31	.05	---	.08	.07	---	.06	---	.02	---	.05	.02	---
TOTAL	2.22	1.50	1.65	2.15	1.27	4.05	3.35	1.22	1.05	2.50	80.72	.68
MEAN	.072	.050	.053	.069	.045	.13	.11	.039	.035	.081	2.60	.023
MAX	.12	.06	.08	.08	.06	.21	.20	.06	.04	1.0	48	.03
MIN	.04	.04	.04	.05	.03	.05	.06	.02	.02	.02	.02	.01
AC-FT	4.4	3.0	3.3	4.3	2.5	8.0	6.6	2.4	2.1	5.0	160	1.3

CAL YR 1976	TOTAL	74.27	MEAN	.20	MAX	42	MIN	.01	AC-FT	147
WTR YR 1977	TOTAL	102.36	MEAN	.28	MAX	48	MIN	.01	AC-FT	203



## 10255885 SAN FELIPE CREEK NEAR WESTMORLAND, CA

LOCATION.--Lat 33°07'25", long 115°51'08", in NW¼SW¼ sec.17, T.12 S., R.11 E., Imperial County, on left bank 320 ft (98 m) downstream from U.S. Highway 99, and 14.6 mi (23.5 km) northwest of Westmorland.

DRAINAGE AREA.--1,693 mi<sup>2</sup> (4,385 km<sup>2</sup>).

PERIOD OF RECORD.--December 1960 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Altitude of gage is 190 ft (58 m) below mean sea level, from topographic map.

REMARKS.--Records poor. No regulation above station. Diversion and pumping for domestic use and irrigation in Borrego Vally 25 mi (40 km) upstream.

AVERAGE DISCHARGE.--16 years (water years 1962-77), 7.89 ft<sup>3</sup>/s (0.223 m<sup>3</sup>/s), 5,720 acre-ft/yr (7.05 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 100,000 ft<sup>3</sup>/s (2,830 m<sup>3</sup>/s) Sept. 10, 1976, gage height, 19.0 ft (5.79 m), from rating curve extended above 11 ft<sup>3</sup>/s (0.31 m<sup>3</sup>/s) on basis of contracted-opening measurement combined with road overflow at peak gage height; no flow for some months in each year.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 200 ft<sup>3</sup>/s (5.66 m<sup>3</sup>/s) and maximum (\*), from rating curve extended above 10,000 ft<sup>3</sup>/s (283 m<sup>3</sup>/s) as explained above:

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)		Gage height (ft) (m)	
July 23	Unknown	374	10.6	Unknown	
Aug. 16	Unknown	*40000	1130	17.1	5.21

Minimum daily discharge, no flow many months.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1										0	0	
2										0	0	
3										0	0	
4										0	0	
5										0	0	
6										0	0	
7										0	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	5000	
17										0	3300	
18										0	40	
19										0	50	
20										0	0	
21										0	0	
22										0	0	
23										50	0	
24										0	0	
25										0	0	
26										0	0	
27										0	0	
28										0	0	
29										0	0	
30										0	0	
31		---			---		---		---	0	0	---
TOTAL	0	0	0	0	0	0	0	0	0	50	8390	0
MEAN	0	0	0	0	0	0	0	0	0	1.61	271	0
MAX	0	0	0	0	0	0	0	0	0	50	5000	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	0	0	0	0	0	0	0	0	99	16640	0
CAL YR 1976	TOTAL	20488.32	MEAN 56.0	MAX 17100	MIN 0	AC-FT 40640						
WTR YR 1977	TOTAL	8440.00	MEAN 23.1	MAX 5000	MIN 0	AC-FT 16740						

## 10256000 WHITEWATER RIVER AT WHITE WATER, CA

LOCATION.--Lat 33°56'48", long 116°38'24", in NW¼NW¼NE¼ sec.2, T.3 S., R.3 E., Riverside County, on right bank 1.5 mi (2.4 km) north of White Water, and 3.5 mi (5.6 km) upstream from San Geronio River.

DRAINAGE AREA.--57.5 mi<sup>2</sup> (148.9 km<sup>2</sup>).

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1948 to current year.

GAGE.--Water-stage recorder on river; water-stage recorder and Cipolletti weir on diversion 500 ft (152 m) downstream. Datum of river gage is 1,610 ft (491 m) above mean sea level. Feb. 24, 1950, to Sept. 30, 1952, and Apr. 13, 1960, to June 19, 1968, supplementary gages at different sites and datums within 200 ft (61 m) of base gage. Since Aug. 12, 1969, supplementary gage at site 1.5 mi (2.4 km) downstream at different datum.

REMARKS.--Records poor. Stage-discharge relationship indefinite much of year. White Water Mutual Water Co. diverts 50 ft (15 m) downstream. Monthly discharge is combined with flow from infiltration line that bypasses station. No regulation above station. Water is diverted out of basin about 15 mi (24 km) upstream to powerplants in San Geronio River basin and then to an area north of Banning for irrigation. One small diversion for domestic use and one for irrigation are made 2 to 3 mi (3.2 to 4.8 km) upstream. COOPERATION.--Records of bypass in infiltration line were furnished by White Water Mutual Water Co.; records of diversion, 15 mi (24 km) upstream, were furnished by Southern California Edison Co.

AVERAGE DISCHARGE.--River only: 29 years, 15.3 ft<sup>3</sup>/s (0.433 m<sup>3</sup>/s), 11,080 acre-ft/yr (13.7 hm<sup>3</sup>/yr). Combined river and infiltration line: 28 years (water years 1950-77), 16.8 ft<sup>3</sup>/s (0.476 m<sup>3</sup>/s), 12,170 acre-ft/yr (15.0 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--River only: Maximum discharge, 24,000 ft<sup>3</sup>/s (680 m<sup>3</sup>/s) Nov. 22, 1965, gage height, 13.60 ft (4.145 m), from rating curve extended above 660 ft<sup>3</sup>/s (18.7 m<sup>3</sup>/s) on basis of field estimate of maximum flow; no flow at times in some years.

EXTREMES OUTSIDE PERIOD OF RECORD.--River only: Flood of March 2, 1938, reached a discharge of 42,000 ft<sup>3</sup>/s (1,190 m<sup>3</sup>/s) from slope-area measurement of peak flow, at site 2.5 mi (4.0 km) upstream, drainage area, 51.4 mi<sup>2</sup> (133 km<sup>2</sup>).

EXTREMES FOR CURRENT YEAR.--River only: Peak discharges above base of 100 ft<sup>3</sup>/s (2.83 m<sup>3</sup>/s) and maximum (\*), based on slope-area measurements of peak flow:

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)
Jan. 3	Unknown	241 6.83	14.1 4.30 (from high-water mark)
Aug. 17	0530	*1650 46.7	8.68 2.646

Minimum daily discharge, 1.4 ft<sup>3</sup>/s (0.040 m<sup>3</sup>/s) Oct. 1-21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.4	2.4	3.5	5.0	6.0	6.0	12	6.5	3.5	4.0	5.0	4.5
2	1.4	2.3	3.5	4.0	6.0	6.0	12	6.0	3.5	4.0	5.0	4.5
3	1.4	2.2	3.0	5.0	6.0	6.0	11	6.0	3.5	4.0	5.0	4.5
4	1.4	2.1	2.5	10	6.0	6.5	11	6.0	3.5	4.5	5.0	4.5
5	1.4	2.0	2.5	8.0	6.0	7.0	11	6.0	3.5	4.5	5.0	4.5
6	1.4	2.0	2.5	7.0	6.0	6.5	10	6.0	3.5	4.5	5.0	4.5
7	1.4	2.0	2.5	6.5	6.0	6.5	10	6.0	4.0	4.5	5.0	4.5
8	1.4	2.0	2.5	6.5	6.0	6.0	10	13	10	4.0	5.0	4.5
9	1.4	2.0	2.5	6.5	6.0	6.0	10	32	9.0	4.0	5.0	4.5
10	1.4	2.0	2.5	6.5	6.0	6.0	10	11	8.0	3.5	5.0	4.5
11	1.4	3.0	2.5	6.0	6.0	6.0	10	9.0	7.0	3.5	5.0	4.0
12	1.4	4.0	2.5	6.0	15	6.0	10	8.0	6.5	3.5	5.0	4.0
13	1.4	3.5	2.5	6.0	23	6.0	9.0	7.0	6.0	3.5	5.0	4.0
14	1.4	3.5	2.5	6.0	23	6.0	9.0	6.0	5.5	3.5	5.0	4.0
15	1.4	3.0	2.5	6.0	24	10	9.0	5.5	5.0	3.5	7.0	4.0
16	1.4	3.0	2.5	6.0	25	8.0	9.0	5.0	5.0	3.5	6.0	4.0
17	1.4	3.0	2.5	6.0	16	8.0	9.0	5.0	5.0	3.5	250	4.0
18	1.4	3.0	2.5	6.0	19	8.0	9.0	5.0	5.0	3.5	20	4.0
19	1.4	3.0	2.5	6.0	18	8.0	8.0	5.0	5.0	3.5	10	4.0
20	1.4	3.0	2.5	6.0	10	8.0	8.0	5.0	4.5	4.0	9.0	4.0
21	1.4	3.0	2.5	6.0	11	8.0	8.0	4.5	4.5	4.0	8.0	4.0
22	2.5	3.0	2.5	6.0	15	8.0	8.0	4.5	4.5	4.0	7.0	4.0
23	3.0	3.0	2.5	6.0	10	8.0	8.0	4.5	4.5	4.0	6.0	4.0
24	2.5	3.0	2.5	6.0	12	8.0	7.0	4.5	4.5	4.0	5.5	3.5
25	2.5	3.0	2.5	6.0	10	15	7.0	4.5	4.5	4.0	5.0	3.5
26	2.5	3.5	2.5	6.0	7.0	13	7.0	4.5	4.0	4.0	5.0	3.5
27	2.5	3.5	2.5	6.0	6.0	12	7.0	4.5	4.0	4.0	5.0	3.5
28	2.5	3.5	2.5	6.0	6.0	12	7.0	4.0	4.0	4.0	5.0	3.5
29	2.5	3.5	2.5	6.0	---	12	7.0	4.0	4.0	4.5	4.5	3.5
30	2.5	3.5	8.0	6.0	---	12	7.0	4.0	4.0	5.0	4.5	3.5
31	2.5	---	15	6.0	---	12	---	3.5	---	5.0	4.5	---
TOTAL	54.9	85.5	98.0	236.0	316.0	256.5	270.0	206.0	149.0	123.5	432.0	121.5
MEAN	1.77	2.85	3.16	7.61	11.3	8.27	9.00	6.65	4.97	3.98	13.9	4.05
MAX	3.0	4.0	15	50	25	15	12	32	10	5.0	250	4.5
MIN	1.4	2.0	2.5	4.0	6.0	6.0	7.0	3.5	3.5	3.5	4.5	3.5
AC-FT	109	170	194	468	627	509	536	409	296	245	857	241
a	138	197	232	526	665	575	600	470	340	287	894	294
b	26	56	69	75	23	76	89	62	78	68	61	68
CAL YR 1976 TOTAL	1792.20											
WTR YR 1977 TOTAL	2348.90											
MEAN 4.90												
MAX 140												
MIN .90												
AC-FT 3550												
AC-FT 4660												
AC-FT a 4080												
AC-FT a 5220												

a Combined discharge, in acre-feet, of river and infiltration line.

b Discharge, in acre-feet, diverted from basin 15 mi (24 km) upstream.

## 10256000 WHITWATER RIVER AT WHITE WATER, CA--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--

CHEMICAL ANALYSES: Water year 1967 to current year.

COOPERATION.--Chemical-quality records were furnished by California Department of Water Resources.

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPECIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)
JAN 11...	1030	6.0	460	7.5	16.0	1	7.9	33	63
MAR 28...	1040	12	405	8.3	17.0	60	8.6	16	52
JUN 08...	1340	10	410	7.8	19.0	1	8.6	10	54
SEP 27...	1650	3.5	450	8.1	19.4	1	8.6	11	59

DATE	DIS- SOLVED MAA- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	ALKA- LINITY AS CACO3 (MG/L)	CARBON DIOXIDE (CO2) (MG/L)
JAN 11...	17	18	14	.5	3.0	240	0	190	12
MAR 28...	12	12	12	.4	4.0	200	0	160	1.6
JUN 08...	13	18	17	.6	4.0	220	0	180	5.6
SEP 27...	14	17	15	.5	4.0	230	0	190	2.9

DATE	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	DIS- SOLVED SOLIDS (TONS PER AC-FT)	DIS- SOLVED SOLIDS (TONS PER DAY)	DIS- SOLVED NITRATE (N) (MG/L)	DIS- SOLVED NITRATE (NO3) (MG/L)
JAN 11...	63	6.0	1.4	307	.42	4.97	.23	1.0
MAR 28...	39	3.0	.9	268	.36	8.68	.32	1.4
JUN 08...	39	4.0	.9	211	.29	5.70	.68	3.0
SEP 27...	40	5.0	.8	280	.38	2.65	.70	3.1

## SALTON SEA BASIN

10256200 SAN GORGONIO RIVER NEAR BANNING, CA

LOCATION.--Lat 33°59'54", long 116°54'29", in SW¼NW¼NW¼ sec.17, T.25 S., R.1 E., Riverside County, on right bank 3.7 mi (6.0 km) upstream from Mais Canyon, and 5.3 mi (8.5 km) northwest of Banning.

DRAINAGE AREA.--14.8 mi<sup>2</sup> (38.3 km<sup>2</sup>).

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

GAGE.--Water-stage recorder. Altitude of gage is 3,720 ft (1,130 m), from topographic map.

REMARKS.--Records poor. No regulation above station. Some pumping upstream for irrigation. Surface water data for 1976 water year is published in this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 432 ft<sup>3</sup>/s (12.2 m<sup>3</sup>/s) Sept. 11, 1976, gage height, 8.92 ft (2.719 m), from rating curve extended above 35 ft<sup>3</sup>/s (0.99 m<sup>3</sup>/s) on basis of estimate of maximum flow; no flow long periods some years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 35 ft<sup>3</sup>/s (0.99 m<sup>3</sup>/s) Jan. 3, on basis of field estimate of maximum flow, gage height 7.80 ft (2.377 m) from floodmarks; no flow in some months.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0		0	.74	0	0	0	0	0	0
2	0	0	0		0	.02	0	0	0	0	0	0
3	0	0	0		0	.56	0	0	0	0	0	0
4	0	0	0		.42	.10	0	0	0	0	0	0
5	0	0	0		.56	0	0	0	0	0	0	0
6	0	0	0		.39	0	0	0	0	0	0	.06
7	0	0	0		.08	0	0	1.0	0	0	0	0
8	0	0	0		.61	0	0	.63	0	0	0	0
9	0	0	0		1.2	0	0	0	0	0	0	0
10	0	0	0		.63	.03	0	0	.53	0	0	5.7
11	0	0	0		.03	.23	0	0	.41	0	0	57
12	0	0	.23		0	0	0	0	0	0	0	1.0
13	0	0	.05		0	0	0	0	0	0	0	.50
14	0	0	0		0	0	.35	0	0	0	0	.10
15	0	0	0		.13	0	.77	0	0	0	0	.10
16	0	0	0		0	0	0	0	0	0	0	.10
17	0	0	0		0	0	0	0	0	0	0	.10
18	0	0	0		0	0	0	0	0	0	0	.10
19	0	0	0		0	0	0	0	0	0	0	.10
20	0	0	.09		0	0	0	0	0	0	0	.10
21	0	0	0		0	0	0	0	0	0	0	.10
22	0	0	0		0	0	0	0	0	0	0	.10
23	0	0	0		0	0	0	0	0	0	0	1.1
24	0	0	0		0	0	0	0	0	0	0	.10
25	0	0	0		0	0	0	0	0	0	0	.10
26	0	0	0		0	0	0	0	0	.10	0	0
27	0	.08	0		0	0	0	0	0	0	0	.10
28	0	0	0		0	0	0	0	0	0	0	0
29	0	0	0		0	0	0	0	0	0	0	.10
30	.11	0	0		---	0	0	0	0	0	.01	.10
31	0	---	0		---	0	---	0	---	0	.01	---
TOTAL	.11	.08	.37	0	4.05	1.68	1.12	1.63	.94	.10	.02	66.76
MEAN	.004	.003	.012	0	.14	.054	.037	.053	.031	.003	.0006	2.23
MAX	.11	.08	.23	0	1.2	.74	.77	1.0	.53	.10	.01	57
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	.2	.2	.7	0	8.0	3.3	2.2	3.2	1.9	.2	.04	132
WTR YR 1976	TOTAL 76.86	MEAN .21	MAX	57	MIN 0	AC-FT 152						

10256200 SAN GORGONIO RIVER NEAR BANNING, CA--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.17	.30	.16	1.0	.05	.10	.03	.05	.10	.20	.10	.05
2	.07	.43	.87	.50	.05	.08	.03	.05	.10	.28	.10	.05
3	.02	.66	.78	10	.05	.05	.01	.05	.09	.23	.13	.04
4	0	.74	1.2	1.0	.05	.03	.08	.05	.10	.25	.17	.05
5	.02	.36	.43	.58	.05	.02	.15	.04	.09	.26	.20	.04
6	.02	.34	.37	.89	.05	.02	.17	.11	.08	.25	.20	.05
7	.02	.33	.83	.65	.05	.01	.16	.11	.08	.22	.22	.04
8	.03	.26	.50	.50	.05	0	.13	.42	.13	.24	.29	.05
9	.02	.22	.30	.41	.05	0	.13	2.1	.13	.22	.26	.04
10	.03	.19	.30	.34	.05	0	.11	2.6	.08	.23	.26	.05
11	.01	.06	.30	.27	.05	0	.09	1.6	.09	.25	.22	.04
12	0	.06	.30	.22	.05	0	.04	2.0	.05	.23	.23	.05
13	0	.03	.30	.45	.05	0	0	1.4	.10	.21	.24	.05
14	.13	.04	.30	.45	.05	0	.02	.90	.08	.19	.27	.05
15	.47	.03	.30	.08	.05	0	.08	.67	.05	.16	.39	.05
16	.12	.02	.30	.13	.05	.02	.06	1.2	.06	.21	.85	.04
17	.28	.05	.30	.05	.05	.06	.06	.67	.04	.18	3.1	.04
18	.14	.34	.30	.06	.05	.33	.08	.42	.04	.19	1.9	.04
19	.13	.34	.30	.02	.05	.26	.03	.79	.03	.20	1.4	.05
20	.13	.20	.30	0	.05	.04	.03	.99	.03	.20	1.0	.04
21	.49	.20	.30	0	.05	.02	.03	.45	.02	.24	.50	.05
22	.21	.20	.30	0	.05	.01	.06	.44	.01	.24	.50	.05
23	.15	.20	.30	0	.05	0	.05	.74	.04	.19	.50	.05
24	.19	.20	.30	0	.50	0	.03	1.0	.16	.29	.50	.05
25	.10	.20	.30	.03	.10	.14	.02	.80	.17	.23	.50	.05
26	.10	.20	.30	.10	.10	.46	.05	.60	.19	.21	.50	.05
27	.10	.20	.30	.20	.10	.37	.05	.40	.20	.20	.50	.04
28	.10	.20	.30	.15	.10	.19	.05	.30	.21	.18	2.0	.05
29	.10	.20	.30	.10	---	.16	.05	.20	.21	.14	1.4	.05
30	.10	.20	.50	.06	---	.09	.05	.14	.22	.12	1.1	.05
31	.10	---	2.0	.05	---	.08	---	.10	---	.12	.60	---
TOTAL	3.55	7.00	13.94	18.29	2.05	2.54	1.93	21.39	2.98	6.56	20.13	1.40
MEAN	.11	.23	.45	.59	.073	.082	.064	.69	.099	.21	.65	.047
MAX	.49	.74	2.0	10	.50	.46	.17	2.6	.22	.29	3.1	.05
MIN	0	.02	.16	0	.05	0	0	.04	.01	.12	.10	.04
AC-FT	7.0	14	28	36	4.1	5.0	3.8	42	5.9	13	40	2.8
CAL YR 1976	TOTAL	100.79	MEAN .28	MAX 57	MIN 0	AC-FT 200						
WTR YR 1977	TOTAL	101.76	MEAN .28	MAX 10	MIN 0	AC-FT 202						

## SALTON SEA BASIN

10256400 SAN GORGONIO RIVER NEAR WHITE WATER, CA

LOCATION.--Lat 33°55'14", long 116°41'45", in NW¼SE¼SW¼ sec.8, T.3 S., R.3 E., Riverside County, on right bank 0.2 mi (0.3 km) south of Interstate Highway 10, and 3.4 mi (5.5 km) west of town of White Water.

DRAINAGE AREA.--154 mi<sup>2</sup> (399 km<sup>2</sup>).

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

GAGE.--Water-stage recorder. Altitude of gage is 1,320 ft (402 m), from topographic map. Prior to Mar. 19, 1968, flood-hydrograph recorder.

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

AVERAGE DISCHARGE.--11 years, 1.23 ft<sup>3</sup>/s (0.035 m<sup>3</sup>/s), 890 acre-ft/yr (1.10 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,250 ft<sup>3</sup>/s (205 m<sup>3</sup>/s) Jan. 25, 1969, gage height, 6.0 ft (1.83 m), from floodmarks, on basis of slope-area measurement of maximum flow; no flow most of each year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Nov. 23, 1965, reached a stage of 6.10 ft (1.859 m), from floodmarks, discharge, 4,500 ft<sup>3</sup>/s (127 m<sup>3</sup>/s), on basis of slope-area measurement.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 24 ft<sup>3</sup>/s (0.680 m<sup>3</sup>/s) Jan. 3, gage height, 1.96 ft (0.597 m), no peak above base of 50 ft<sup>3</sup>/s (1.42 m<sup>3</sup>/s); no flow most of year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1				0								
2				0								
3				1.0								
4				0								
5				0								
6				.60								
7				0								
8				0								
9				0								
10				0								
11				0								
12				0								
13				0								
14				0								
15				0								
16				0								
17				0								
18				0								
19				0								
20				0								
21				0								
22				0								
23				0								
24				0								
25				0								
26				0								
27				0								
28				0								
29				0	---							
30				0	---							
31		---		0	---		---		---			---
TOTAL	0	0	0	1.60	0	0	0	0	0	0	0	0
MEAN	0	0	0	.052	0	0	0	0	0	0	0	0
MAX	0	0	0	1.0	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	0	3.2	0	0	0	0	0	0	0	0
CAL YR 1976	TOTAL	211.80	MEAN .58	MAX	170	MIN 0	AC-FT 420					
WTR YR 1977	TOTAL	1.60	MEAN .004	MAX	1.0	MIN 0	AC-FT 3					

LOCATION.--Lat 33°52'14", long 116°40'49", in SE¼NW¼NW¼ sec.33, T.3 S., R.3 E., Riverside County, on left bank 300 ft (91 m) upstream from Southern Pacific Railroad diversion dam, 300 ft (91 m) downstream from East Fork, 2.5 mi (4.0 km) upstream from mouth, and 4.4 mi (7.1 km) southwest of White Water.

PERIOD OF RECORD.--July to December 1921, May 1922 to February 1927, December 1927 to September 1931, October 1959 to current year. Yearly discharge only for 1930, published in WSP 1314.

REMARKS.--Records fair. No regulation or diversion above station. Palm Springs Water Co. diverts 50 ft (15 m) downstream, generally taking the entire base flow.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,000 ft<sup>3</sup>/s (368 m<sup>3</sup>/s) Jan. 25, 1969, gage height, 27.4 ft (8.32 m), from floodmarks, present datum, from rating curve extended above 55 ft<sup>3</sup>/s (1.56 m<sup>3</sup>/s) on basis of slope-area measurement of maximum flow; minimum daily, 2.1 ft<sup>3</sup>/s (0.059 m<sup>3</sup>/s) Jun 23-27, Sept. 5-11, 1961.

Date	Time	Discharge		Gage height	
		(ft <sup>3</sup> /s)	(m <sup>3</sup> /s)	(ft)	(m)
Jan. 3	0530	65	1.85	16.74	5.102
Aug. 17	1730	*208	5.89	17.55	5.349

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.0	4.1	3.8	5.0	5.6	5.5	4.8	6.2	7.5	3.5	2.8	3.4
2	7.8	4.1	3.7	4.4	5.5	5.3	4.9	6.0	7.2	3.5	2.8	3.3
3	7.4	4.1	3.7	20	5.4	4.9	4.8	5.8	6.5	3.4	2.9	3.3
4	7.1	4.1	3.7	7.4	5.3	4.9	4.7	5.8	6.5	3.4	2.8	3.2
5	6.8	4.0	3.7	7.0	5.3	4.7	4.9	5.7	6.5	3.4	2.8	3.3
6	6.4	4.0	3.6	12	5.1	4.7	5.1	5.7	6.5	3.3	2.8	3.2
7	6.1	4.0	3.7	14	5.1	4.7	5.6	5.5	6.0	3.3	2.8	3.1
8	5.8	4.0	3.6	9.2	5.0	4.7	6.1	8.1	5.8	3.3	2.8	3.1
9	5.5	4.0	3.6	7.7	5.0	4.5	6.3	18	5.7	3.2	2.8	3.2
10	5.2	4.0	3.6	7.0	4.9	4.7	6.2	11	5.3	3.2	2.8	3.3
11	5.0	4.0	3.7	6.5	4.9	4.7	5.9	10	5.0	3.2	2.8	3.3
12	4.8	6.0	3.7	6.3	4.8	4.7	5.7	9.6	4.9	3.2	2.8	3.3
13	4.6	5.0	3.7	6.0	4.7	4.7	5.7	9.6	4.7	3.1	2.8	3.2
14	4.5	4.5	3.7	5.9	4.7	4.7	5.9	9.0	4.5	3.1	2.6	3.2
15	4.4	4.4	3.7	5.7	4.7	4.5	6.0	9.0	4.2	3.2	2.9	3.2
16	4.2	4.3	3.7	5.6	4.6	5.6	6.1	8.4	4.1	3.2	16	3.2
17	4.2	4.2	3.7	5.4	4.7	5.6	6.3	7.8	4.0	3.2	124	3.3
18	4.1	4.1	3.7	5.5	4.6	5.1	6.6	7.5	4.0	3.2	38	3.3
19	4.1	4.1	3.6	5.9	4.7	4.9	6.7	7.0	4.0	3.2	11	3.3
20	4.1	4.1	3.6	6.0	4.6	4.7	6.2	6.5	4.0	3.2	7.0	3.3
21	4.8	4.0	3.7	7.4	4.6	4.7	5.9	6.5	3.9	3.2	5.5	3.3
22	6.0	4.0	3.6	8.1	5.3	4.7	5.7	7.0	3.9	3.2	5.1	3.3
23	7.0	4.0	3.6	7.4	6.1	4.7	5.6	7.5	3.9	3.2	4.7	3.3
24	6.0	4.0	3.6	6.9	8.7	4.9	5.7	7.5	3.8	3.1	4.3	3.3
25	5.0	4.0	3.6	6.5	7.1	6.0	6.0	7.2	3.6	2.9	3.9	3.3
26	4.8	4.0	3.6	6.9	6.2	5.2	6.4	6.7	3.8	3.0	3.7	3.3
27	4.6	3.8	3.6	6.5	5.9	5.2	6.4	6.5	3.7	2.9	3.6	3.3
28	4.5	3.8	3.5	6.1	5.7	5.6	6.3	6.5	3.7	2.8	3.6	3.3
29	4.4	3.8	3.5	5.9	---	5.4	6.1	6.7	3.6	2.8	3.5	3.3
30	4.3	3.8	4.7	5.8	---	5.2	6.2	7.0	3.5	2.8	3.4	3.3
31	4.2	---	6.7	5.7	---	5.0	---	7.2	---	2.8	3.4	---
TOTAL	165.7	124.3	117.2	225.7	148.8	154.4	174.8	238.5	144.3	98.0	282.7	98.0
MEAN	5.35	4.14	3.78	7.28	5.31	4.98	5.83	7.69	4.81	3.16	9.12	3.27
MAX	8.0	6.0	6.7	20	8.7	6.0	6.7	18	7.5	3.5	124	3.4
MIN	4.1	3.8	3.5	4.4	4.6	4.5	4.7	5.5	3.5	2.8	2.6	3.1
AC-FT	329	247	232	448	295	306	347	473	286	194	561	194
CAL YR 1976	TOTAL	2804.2	MEAN 7.66	MAX 460	MIN 2.8	AC-FT	5560					
WTR YR 1977	TOTAL	1972.4	MEAN 5.40	MAX 124	MIN 2.6	AC-FT	3910					

## 10257600 MISSION CREEK NEAR DESERT HOT SPRINGS, CA

LOCATION.--Lat 34°00'40", long 116°37'38", in NE¼SW¼ sec.12, T.2 S., R.3 E., Riverside County, in Mission Creek Indian Reservation, 0.6 mi (1.0 km) downstream from West Fork, and 6.8 mi (10.9 km) northwest of Desert Hot Springs.

DRAINAGE AREA.--35.7 mi<sup>2</sup> (92.5 km<sup>2</sup>).

PERIOD OF RECORD.--October 1967 to current year.

GAGE.--Water-stage recorder with rain-gage attachment. Altitude of gage is 2,400 ft (732 m), from topographic map.

REMARKS.--Records poor. Slight regulation of low flow by two small dams with a combined capacity of about 3 acre-ft (3,700 m<sup>3</sup>), 2 mi (3 km) above station.

AVERAGE DISCHARGE.--10 years, 1.48 ft<sup>3</sup>/s (0.042 m<sup>3</sup>/s), 1,070 acre-ft/yr (1.32 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,660 ft<sup>3</sup>/s (47.0 m<sup>3</sup>/s) Jan. 25, 1969, gage height, 6.40 ft (1.951 m) on basis of slope-area measurement of maximum flow; no flow for long periods in most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 463 ft<sup>3</sup>/s (13.1 m<sup>3</sup>/s) Aug. 17, gage height, 2.70 ft (0.823 m), no other peak above base of 50 ft<sup>3</sup>/s (1.42 m<sup>3</sup>/s); minimum daily, no flow most of year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1				0	.45	0					0	
2				0	.64	0					0	
3				.15	.64	0					0	
4				.08	.64	0					0	
5				.06	.64	0					0	
6				.64	.45	0					0	
7				.64	.37	0					0	
8				.29	.45	0					0	
9				.23	.64	0					0	
10				.29	.45	0					0	
11				.54	.37	0					0	
12				.45	.23	0					0	
13				.29	.18	0					0	
14				.29	.14	0					0	
15				.23	.14	0					2.0	
16				.18	.18	0					1.0	
17				.11	.14	.03					70	
18				.11	.06	0					5.0	
19				.02	.01	0					2.0	
20				.02	.01	0					1.0	
21				.02	.01	0					.50	
22				.02	0	0					0	
23				.04	.29	0					0	
24				.06	.76	0					0	
25				.11	.44	0					0	
26				.23	0	0					0	
27				.18	0	0					0	
28				.08	0	0					0	
29				.11	---	0					0	
30				.14	---	0					0	
31		---		.29	---	0	---		---		0	---
TOTAL	0	0	0	5.90	8.33	.03	0	0	0	0	81.50	0
MEAN	0	0	0	.19	.30	.001	0	0	0	0	2.63	0
MAX	0	0	0	.64	.76	.03	0	0	0	0	70	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	0	0	12	17	.06	0	0	0	0	162	0
a	.60	.20	.80	1.6	.20	.50	0	.50	0	0	1.2	0
CAL YR 1976	TOTAL	35.69	MEAN	.098	MAX	5.8	MIN	0	AC-FT	71		
WTR YR 1977	TOTAL	95.76	MEAN	.26	MAX	70	MIN	0	AC-FT	190		

a Precipitation, in inches



## 10257710 CHINO CANYON CREEK NEAR PALM SPRINGS, CA

LOCATION.--Lat 33°50'21", long 116°36'45", in SW¼SW¼NW¼ sec.7, T.4 S., R.4 E., Riverside County, on left bank 800 ft (244 m) downstream from tram building, 3.7 mi (6.0 km) west of Highway 111 on road leading to Palm Springs aerial tramway and 5.5 mi (8.8 km) west of Palm Springs.

DRAINAGE AREA.--3.88 mi<sup>2</sup> (10.05 km<sup>2</sup>).

PERIOD OF RECORD.--October 1974 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 2,500 ft (762 m), from topographic map.

REMARKS.--Records fair. Two diversions for the city of Palm Springs 0.5 mi (0.8 km) upstream.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 247 ft<sup>3</sup>/s (7.00 m<sup>3</sup>/s) Aug. 15, 1977, gage height, 5.93 ft (1.807 m), from floodmark, from rating curve extended above 18 ft<sup>3</sup>/s (0.510 m<sup>3</sup>/s) on basis of slope-area measurement of maximum flow; no flow for several months in each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 247 ft<sup>3</sup>/s (7.00 m<sup>3</sup>/s) Aug. 15, 1977, gage height, 5.93 ft (1.807 m), from floodmark, from rating curve extended above 18 ft<sup>3</sup>/s (0.510 m<sup>3</sup>/s) on basis of slope-area measurement of maximum flow; no flow most of year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.23			0						0		.28
2	.18			0						0		.18
3	.06			0						0		.05
4	0			0						0		.02
5	0			0						0		.02
6	0			0						0		.01
7	0			.84						0		0
8	0			2.2						0		0
9	0			.88						0		0
10	0			.66						0		.03
11	0			.57						0		.23
12	0			.48						0		.16
13	0			.19						0		0
14	0			0						0		0
15	0			0						10		0
16	0			0						5.7		0
17	0			0						28		0
18	0			0						6.6		0
19	0			0						5.3		0
20	0			0						4.1		0
21	0			0						3.2		0
22	0			0						2.7		0
23	0			0						2.7		0
24	0			0						3.5		0
25	0			0						2.7		0
26	0			0						2.1		0
27	0			0						1.3		0
28	0			0						.48		0
29	0			0	---					.41		0
30	0			0	---					.41		0
31	0	---		0	---		---		---	.34		---
TOTAL	.47	0	0	5.82	0	0	0	0	0	0	79.54	.98
MEAN	.015	0	0	.19	0	0	0	0	0	0	2.57	.033
MAX	.23	0	0	2.2	0	0	0	0	0	0	28	.28
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	.9	0	0	12	0	0	0	0	0	0	158	1.9
CAL YR 1976	TOTAL 13.55	MEAN .037	MAX	6.0	MIN 0	AC-FT 27						
WTR YR 1977	TOTAL 86.81	MEAN .24	MAX	28	MIN 0	AC-FT 172						



## 10258500 PALM CANYON CREEK NEAR PALM SPRINGS, CA

LOCATION.--Lat 33°44'42", long 116°32'05", in NE¼SW¼SE¼ sec.11, T.5 S., R.4 E., Riverside County, on right bank 0.8 mi (1.3 km) upstream from Murray Canyon Creek, and 6 mi (10 km) south of Palm Springs.

DRAINAGE AREA.--93.3 mi<sup>2</sup> (241.6 km<sup>2</sup>).

PERIOD OF RECORD.--January 1930 to January 1942, October 1947 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 700 ft (213 m), from topographic map. Prior to Jan. 14, 1942, at datum 0.2 ft (0.06 m) higher.

REMARKS.--Records fair above 10 ft<sup>3</sup>/s (0.28 m<sup>3</sup>/s) and poor below. No regulation or diversion above station.

AVERAGE DISCHARGE.--41 years (water years 1931-41, 1948-77), 3.14 ft<sup>3</sup>/s (0.089 m<sup>3</sup>/s), 2,270 acre-ft/yr (2.80 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,050 ft<sup>3</sup>/s (115 m<sup>3</sup>/s) Sept. 10, 1976, gage height, 6.81 ft (2.076 m), from rating curve extended above 20 ft<sup>3</sup>/s (0.57 m<sup>3</sup>/s) on basis of slope-area measurement of maximum flow; no flow for several months in most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 175 ft<sup>3</sup>/s (4.96 m<sup>3</sup>/s) Aug. 15 (1700 hrs), gage height, 3.67 ft (1.119 m), no other peak above base of 100 ft<sup>3</sup>/s (2.83 m<sup>3</sup>/s), from rating curve extended above 20 ft<sup>3</sup>/s (0.57 m<sup>3</sup>/s) on basis of slope-area measurement of maximum flow; no flow for most of year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1				0							0	
2				0							0	
3				.99							0	
4				.15							0	
5				.13							0	
6				.64							0	
7				.61							0	
8				.25							0	
9				.15							0	
10				.10							0	
11				.10							0	
12				.05							0	
13				0							0	
14				0							0	
15				0							7.9	
16				0							.25	
17				0							17	
18				0							0	
19				0							0	
20				0							0	
21				0							0	
22				0							0	
23				0							7.8	
24				0							3.2	
25				0							0	
26				0							0	
27				0							0	
28				0							0	
29				0	---						0	
30				0	---						0	
31		---		0	---		---		---		0	---
TOTAL	0	0	0	3.17	0	0	0	0	0	0	36.15	0
MEAN	0	0	0	.10	0	0	0	0	0	0	1.17	0
MAX	0	0	0	.99	0	0	0	0	0	0	17	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	0	0	6.3	0	0	0	0	0	0	72	0
CAL YR 1976	TOTAL	684.97	MEAN	1.87	MAX	526	MIN	0	AC-FT	1360		
WTR YR 1977	TOTAL	39.32	MEAN	.11	MAX	17	MIN	0	AC-FT	78		

## SALTON SEA BASIN

10259000 ANDREAS CREEK NEAR PALM SPRINGS, CA

LOCATION.--Lat 33°45'36", long 116°32'57", in NW¼SE¼SE¼ sec.3, T.5 S., R.4 E., Riverside County, on left bank at Bureau of Indian Affairs diversion dam, 1.1 mi (1.8 km) above mouth, and 5.1 mi (8.2 km) south of Palm Springs.

DRAINAGE AREA.--8.61 mi<sup>2</sup> (22.30 km<sup>2</sup>).

PERIOD OF RECORD.--October 1948 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 800 ft (244 m), from topographic map. Prior to Mar. 25, 1949, reference point at same site at different datum.

REMARKS.--Records fair. No regulation above station. One small diversion for domestic use about 1 mi (2 km) above station.

AVERAGE DISCHARGE.--29 years, 2.04 ft<sup>3</sup>/s (0.058 m<sup>3</sup>/s), 1,480 acre-ft/yr (1.82 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,960 ft<sup>3</sup>/s (55.5 m<sup>3</sup>/s) Aug. 31, 1954, gage height, 7.11 ft (2.167 m), from rating curve extended above 80 ft<sup>3</sup>/s (2.27 m<sup>3</sup>/s) on basis of slope-area measurement of maximum flow; no flow at times in some years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 61 ft<sup>3</sup>/s (1.73 m<sup>3</sup>/s) Aug. 15, (1715 hrs), gage height, 2.07 ft (0.631 m), no other peaks above base of 50 ft<sup>3</sup>/s (0.85 m<sup>3</sup>/s); minimum daily, 0.17 ft<sup>3</sup>/s (0.005 m<sup>3</sup>/s) Aug. 5, 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.99	1.2	1.6	1.7	1.7	1.7	1.6	1.0	.87	.37	.24	1.1
2	1.1	1.2	1.6	2.0	1.7	1.7	1.6	.99	.84	.40	.25	1.1
3	1.0	1.2	1.6	3.7	1.7	1.8	1.6	.99	.83	.36	.26	1.1
4	1.0	1.1	1.6	2.2	1.7	1.8	1.5	1.0	.80	.35	.23	1.1
5	1.0	1.2	1.6	2.2	1.7	1.7	1.4	1.0	.91	.33	.17	1.0
6	1.0	1.2	1.6	2.4	1.5	1.8	1.4	1.1	.90	.32	.19	1.0
7	1.1	1.2	1.6	2.4	1.5	1.8	1.4	1.1	.76	.31	.19	1.0
8	1.1	1.1	1.5	2.2	1.5	1.8	1.7	1.3	.76	.29	.17	1.0
9	1.1	1.1	1.5	2.2	1.5	1.7	1.7	1.8	.83	.29	.18	1.0
10	1.0	1.1	1.5	2.1	1.5	1.5	1.6	1.5	.78	.31	.22	1.0
11	1.0	1.1	1.5	2.0	1.6	1.4	1.8	1.3	.95	.31	.21	1.0
12	1.0	1.2	1.5	1.8	1.5	1.6	1.7	1.6	.95	.30	.20	1.0
13	1.0	1.7	1.5	1.8	1.5	2.0	1.6	1.6	.84	.30	.22	1.0
14	1.0	2.0	1.5	1.9	1.5	2.1	1.5	1.5	.84	.31	.20	1.0
15	1.0	1.7	1.5	1.8	1.5	2.1	1.3	1.4	.80	.32	7.1	1.0
16	1.1	1.7	1.4	1.9	1.5	2.3	1.3	1.3	.61	.34	5.5	1.0
17	1.1	1.7	1.4	2.0	1.5	2.2	1.4	1.2	.54	.33	17	1.0
18	1.1	1.7	1.4	2.0	1.5	1.9	1.3	1.2	.53	.32	2.0	1.0
19	1.1	1.7	1.4	2.0	1.5	1.8	1.2	1.1	.54	.31	1.5	1.0
20	1.2	1.7	1.4	2.0	1.5	1.8	1.2	1.1	.56	.30	1.3	1.0
21	1.2	1.7	1.4	2.0	1.5	1.6	1.1	1.1	.56	.33	1.2	.90
22	1.2	1.7	1.3	2.2	1.5	1.6	1.1	1.1	.57	.32	1.2	.90
23	1.3	1.7	1.3	2.0	1.8	1.6	1.1	1.1	.48	.45	1.2	.90
24	1.2	1.7	1.3	2.0	2.2	1.8	1.1	1.0	.46	.56	1.2	.90
25	1.2	1.7	1.3	2.0	2.0	1.8	1.1	1.0	.43	.33	1.1	.90
26	1.2	1.7	1.3	2.1	1.9	1.6	1.1	1.1	.42	.29	1.1	.85
27	1.1	1.5	1.3	2.0	1.8	1.5	1.0	1.1	.38	.30	1.1	.85
28	1.2	1.5	1.3	2.0	1.7	1.5	1.0	1.1	.38	.26	1.1	.85
29	1.2	1.7	1.3	2.0	---	1.7	1.0	1.1	.37	.23	1.1	.85
30	1.2	1.7	1.5	1.7	---	1.7	1.0	1.0	.34	.23	1.1	.85
31	1.2	---	1.8	1.7	---	1.6	---	.96	---	.24	1.1	---
TOTAL	34.19	44.4	45.3	64.0	45.5	54.5	40.4	36.74	19.83	10.01	49.83	29.15
MEAN	1.10	1.48	1.46	2.06	1.63	1.76	1.35	1.19	.66	.32	1.61	.97
MAX	1.3	2.0	1.8	3.7	2.2	2.3	1.8	1.8	.95	.56	.17	1.1
MIN	.99	1.1	1.3	1.7	1.5	1.4	1.0	.96	.34	.23	.17	.85
AC-FT	68	88	90	127	90	108	80	73	39	20	99	58

CAL YR 1976 TOTAL 548.48 MEAN 1.50 MAX 59 MIN .30 AC-FT 1090  
WTR YR 1977 TOTAL 473.85 MEAN 1.30 MAX 17 MIN .17 AC-FT 940

## 10259200 DEEP CREEK NEAR PALM DESERT, CA

LOCATION.--Lat 33°37'52", long 116°23'29", in SE¼NE¼SE¼ sec.19, T.6 S., R.6 E., Riverside County, on left bank 500 ft (152 m) downstream from unnamed tributary, and 6.3 mi (10.1 km) south of Palm Desert.

DRAINAGE AREA.--30.6 mi<sup>2</sup> (79.3 km<sup>2</sup>).

PERIOD OF RECORD.--May 1962 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 1,440 ft (439 m), from topographic map.

REMARKS.--Records poor. No gage-height record Oct. 23 to Dec. 29, Jan. 13 to Mar. 8, May 22 to Aug. 15, Aug. 18 to Sept. 30. No regulation or diversion above station.

AVERAGE DISCHARGE.--15 years, 0.69 ft<sup>3</sup>/s (0.020 m<sup>3</sup>/s), 500 acre-ft/yr (617,000 m<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,100 ft<sup>3</sup>/s (201 m<sup>3</sup>/s) Sept. 10, 1976, gage height, 7.84 ft (2.390 m), recorded in gage well, 9.85 ft (3.002 m) from floodmarks, from rating curve extended above 3.3 ft<sup>3</sup>/s (0.093 m<sup>3</sup>/s) on basis of slope-area measurements at gage heights 2.68 ft (0.817 m), 5.15 ft (1.570 m), and 7.84 ft (2.390 m); no flow for many days each year.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 20 ft<sup>3</sup>/s (0.57 m<sup>3</sup>/s) and maximum (\*), from rating curve extended above 3.3 ft<sup>3</sup>/s (0.093 m<sup>3</sup>/s) as explained above:

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)		Gage height (ft) (m)	
Oct. 22	1530	62	1.76	2.95	0.899
Aug. 17	0230	*410	11.6	4.48	1.366

Minimum daily discharge, no flow many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.70	.05	.06	.16	.20	.15	.07	.02	.01	0	.01	.15
2	.45	.05	.06	.12	.20	.15	.09	.02	.01	0	.01	.15
3	.40	.05	.06	.38	.20	.15	.09	.02	.01	0	.01	.15
4	.40	.05	.06	.19	.20	.15	.09	.02	.01	0	.01	.15
5	.36	.05	.06	.19	.20	.15	.07	.02	.01	0	.01	.10
6	.28	.05	.06	.96	.20	.15	.07	.02	.01	0	.01	.10
7	.24	.05	.06	1.4	.20	.15	.06	.02	.01	0	.01	.10
8	.21	.05	.06	.83	.20	.15	.06	.02	.01	0	.01	.10
9	.19	.05	.06	.45	.20	.16	.06	.02	.01	0	.01	.10
10	.16	.05	.06	.40	.20	.19	.06	.02	.01	0	.01	.10
11	.14	.05	.06	.36	.20	.16	.05	.02	.01	0	.01	.10
12	.10	.10	.06	.32	.20	.12	.04	.02	.01	0	.01	.10
13	.09	.07	.06	.28	.20	.12	.04	.02	.01	0	.01	.10
14	.09	.06	.06	.25	.20	.12	.04	.01	.01	0	.01	.10
15	.07	.06	.06	.25	.20	.12	.04	.01	.01	0	.01	.10
16	.06	.06	.06	.25	.20	.12	.04	.01	0	0	14	.10
17	.06	.06	.06	.25	.20	.16	.04	.01	0	0	70	.10
18	.05	.06	.06	.25	.20	.10	.04	.01	0	0	.50	.06
19	.05	.06	.06	.25	.20	.09	.04	.01	0	0	.40	.06
20	.05	.06	.06	.25	.20	.09	.04	.01	0	0	.30	.06
21	.05	.06	.06	.25	.15	.09	.04	.01	0	0	.20	.06
22	2.6	.06	.06	.25	.15	.09	.04	.01	0	0	.20	.06
23	.10	.06	.06	.25	.15	.09	.03	.01	0	0	.20	.06
24	.08	.06	.06	.25	.15	.09	.03	.01	0	.01	.20	.06
25	.05	.06	.06	.25	.15	.14	.03	.01	0	.01	.20	.06
26	.05	.06	.06	.25	.15	.14	.03	.01	0	.01	.20	.06
27	.05	.06	.06	.25	.15	.12	.03	.01	0	.01	.15	.06
28	.05	.06	.06	.25	.15	.10	.03	.01	0	.01	.15	.06
29	.05	.06	.06	.25	---	.10	.02	.01	0	.01	.15	.06
30	.05	.06	.08	.25	---	.09	.03	.01	0	.01	.15	.06
31	.05	---	.28	.25	---	.07	---	.01	---	.01	.15	---
TOTAL	7.33	1.74	2.10	10.54	5.20	3.87	1.44	.44	.15	.08	87.30	2.68
MEAN	.24	.058	.068	.34	.19	.12	.048	.014	.005	.003	2.82	.089
MAX	2.6	.10	.28	1.4	.20	.19	.09	.02	.01	.01	.70	.15
MIN	.05	.05	.06	.12	.15	.07	.02	.01	0	0	.01	.06
AC-FT	15	3.5	4.2	21	10	7.7	2.9	.9	.3	.2	173	5.3
CAL YR 1976	TOTAL	1377.87	MEAN	3.76	MAX	850	MIN	0	AC-FT	2730		
WTR YR 1977	TOTAL	122.87	MEAN	.34	MAX	70	MIN	0	AC-FT	244		

## SALTON SEA BASIN

10259300 WHITEWATER RIVER AT INDIO, CA

LOCATION.--Lat 33°44'06", long 116°14'39", in NW¼NE¼SW¼ sec.15, T.5 S., R.7 E., Riverside County, at center bridge pier on Interstate Highway 10, 2 mi (3 km) northwest of Indio.

DRAINAGE AREA.--1,073 mi<sup>2</sup> (2,779 km<sup>2</sup>).

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

GAGE.--Water-stage recorder and crest-stage gage. Altitude of gage is 5 ft (2 m), from topographic map.

REMARKS.--Records poor. No regulation above station. Water diverted from tributary streams for municipal supply in vicinity of Palm Springs. At times water is released at Coachella Canal crossing, 0.8 mi (1.3 km) upstream.

AVERAGE DISCHARGE.--11 years, 2.78 ft<sup>3</sup>/s (0.079 m<sup>3</sup>/s), 2,010 acre-ft/yr (2.48 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,400 ft<sup>3</sup>/s (323 m<sup>3</sup>/s), Jan. 25, 1969, gage height 14.41 ft (4.392 m), from rating curve extended above 1,300 ft<sup>3</sup>/s (36.8 m<sup>3</sup>/s) on basis of slope-area measurement at gage height 15.3 ft (4.66 m); no flow all or most of each year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of March 2 or 3, 1938, reached a discharge of 29,000 ft<sup>3</sup>/s (821 m<sup>3</sup>/s), on basis of slope-area measurement at site 4.5 mi (7.2 km) upstream. Flood of November 22, 1965, reached a stage of 15.3 ft (4.66 m) from floodmarks, discharge 14,100 ft<sup>3</sup>/s (399 m<sup>3</sup>/s) on basis of slope-area measurement of peak flow.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 377 ft<sup>3</sup>/s (10.7 m<sup>3</sup>/s) Aug. 17 (0545 hrs), gage height, 7.91 ft (2.410 m), no other peak above base of 200 ft<sup>3</sup>/s (5.66 m<sup>3</sup>/s); no flow for most of year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		2.0	0	0						0	0	
2		0	0	2.0						0	0	
3		0	0	0						0	0	
4		0	0	0						0	0	
5		0	0	0						0	0	
6		0	0	0						0	0	
7		0	0	0						0	0	
8		0	0	0						0	0	
9		0	0	0						0	0	
10		0	0	0						0	0	
11		0	0	0						0		.88
12		0	0	0						0	0	
13		0	0	0						0	0	
14		0	0	0						0	0	
15		0	0	0						0	0	
16		0	0	0						0	0	
17		0	0	0						79	0	
18		0	0	0						12	0	
19		0	0	0						.50	0	
20		0	0	0						0	0	
21		0	0	0						0	0	
22		0	0	0						0	0	
23		0	0	0						0	0	
24		0	3.9	0						0	0	
25		0	.37	0						0	0	
26		0	0	0						0	0	
27		0	0	0						0	0	
28		0	0	0						0	0	
29		0	0	0	---					0	0	
30		0	0	0	---					0	0	
31		---	0	0	---		---		---	0		---
TOTAL	0	2.0	4.27	2.0	0	0	0	0	0	0	91.50	.88
MEAN	0	.067	.14	.065	0	0	0	0	0	0	2.95	.029
MAX	0	2.0	3.9	2.0	0	0	0	0	0	0	79	.88
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	4.0	8.5	4.0	0	0	0	0	0	0	181	1.7
CAL YR 1976	TOTAL	2593.38	MEAN 7.09	MAX 1250	MIN 0	AC-FT 5140						
WTR YR 1977	TOTAL	100.65	MEAN .28	MAX 79	MIN 0	AC-FT 200						

LOCATION.--Lat 33°31'29", long 116°04'36", in NW¼NW¼NW¼ sec.32, T.7 S., R.9 E., Riverside County, on left bank 1.6 mi (2.6 km) upstream from mouth at Salton Sea and 3.3 mi (5.3 km) south of Mecca.

PERIOD OF RECORD.--October 1960 to current year.

GAGE.--Water-stage recorder. Datum of gage is 221.00 ft (67.361 m) below mean sea level (levels by Coachella County Water District). Oct. 1, 1960, to Mar. 22, 1967, at site 1.3 mi (2.1 km) downstream and Mar. 23, 1967, to July 22, 1970, at site 0.7 mi (1.1 km) downstream at different datums.

REMARKS.--Records fair. Most of the flow represents seepage and return flow from irrigated areas.

COOPERATION.--Forty-nine discharge measurements were furnished by Coachella Valley County Water District.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 2,500 ft<sup>3</sup>/s (70.8 m<sup>3</sup>/s), estimated, Jan. 25, 1969; minimum daily, 37 ft<sup>3</sup>/s (1.05 m<sup>3</sup>/s) Nov. 25-29, 1960.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	153	120	101	107	121	119	144	150	160	110	125	160
2	156	120	105	104	125	119	143	150	160	110	123	150
3	146	120	114	109	126	126	155	150	160	110	120	150
4	147	120	119	111	135	124	144	150	150	110	110	150
5	150	120	111	114	135	130	150	150	150	110	109	150
6	139	120	115	120	139	130	146	150	150	110	115	140
7	130	120	115	121	136	133	144	150	150	110	123	140
8	123	120	119	123	140	140	155	150	150	110	130	140
9	119	120	120	120	133	141	159	150	150	110	129	140
10	118	120	120	129	132	137	162	140	160	110	126	140
11	123	120	123	129	135	132	155	140	160	110	124	140
12	130	120	118	135	132	140	146	140	160	110	121	140
13	133	113	119	133	126	139	155	140	160	110	120	140
14	133	99	111	129	126	129	149	140	160	114	118	140
15	130	126	116	136	124	136	147	140	150	120	118	140
16	126	117	123	141	128	144	144	140	140	135	120	150
17	142	99	119	141	132	141	149	140	140	140	690	150
18	133	111	115	132	133	146	155	140	140	139	300	150
19	129	110	114	116	130	149	149	140	140	139	270	150
20	139	114	115	116	125	155	139	140	140	136	240	150
21	147	102	116	125	130	146	135	140	130	136	220	155
22	157	101	113	120	126	153	147	150	120	135	210	153
23	155	107	113	120	124	147	153	150	110	133	200	152
24	143	108	116	116	123	149	147	150	110	132	190	149
25	146	114	105	121	123	161	162	150	110	132	180	139
26	146	114	99	123	111	150	156	150	110	130	180	135
27	141	107	99	120	110	147	158	150	110	129	170	121
28	130	107	100	119	111	153	153	160	110	189	170	119
29	120	109	107	123	---	143	152	160	110	126	170	116
30	120	111	102	118	---	139	158	160	110	126	160	130
31	120	---	109	114	---	137	---	160	---	126	160	---
TOTAL	4224	3409	3491	3785	3571	4335	4511	4570	4160	3787	5441	4279
MEAN	136	114	113	122	128	140	150	147	139	122	176	143
MAX	157	126	123	141	140	161	162	160	160	140	690	160
MIN	118	99	99	104	110	119	135	140	110	110	109	116
AC-FT	8380	6760	6920	7510	7080	8600	8950	9060	8250	7510	10790	8490
CAL YR 1976	TOTAL	55505	MEAN 152	MAX 900	MIN 95	AC-FT	110100					
WTR YR 1977	TOTAL	49563	MEAN 136	MAX 690	MIN 99	AC-FT						

## 10259920 WASTEWAY NO. 1 NEAR MECCA, CA

LOCATION.--Lat 33°31'40", long 115°58'23", in NW¼SW¼SW¼ sec.29, T.7 S., R.10 E., Riverside County, on right bank of channel, 1,000 ft (300 m) upstream from mouth, 2,250 ft (686 m) downstream from State Highway 111, and 6.6 mi (10.6 km) southeast of Mecca.

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

GAGE.--Water-stage recorder. Altitude of gage is 220 ft (67.1 m) below mean sea level (from topographic map).

REMARKS.--Records poor. Discharge represents seepage and return flows from irrigated areas. At times water is wasted from Coachella Canal.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 586 ft<sup>3</sup>/s (16.6 m<sup>3</sup>/s) Aug. 18, 1977; minimum daily, 1.1 ft<sup>3</sup>/s (0.03 m<sup>3</sup>/s) Jan. 8, Apr. 9, 10, May 21-23, 1977.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.0	2.9	2.4	2.4	1.4	3.0	2.0	4.4	1.8	4.0	4.1	2.9
2	4.0	2.7	2.4	67	1.4	3.0	1.6	3.2	1.8	4.0	4.1	2.9
3	4.0	3.5	2.7	46	1.4	3.2	1.6	3.5	1.8	4.0	4.1	3.2
4	4.0	2.9	2.9	1.4	1.4	3.5	1.3	3.2	1.8	4.0	4.4	3.2
5	4.0	2.7	2.9	1.4	1.7	3.8	1.3	3.2	1.8	4.0	4.8	3.2
6	4.0	3.5	2.9	1.4	2.0	4.1	1.3	2.7	3.0	4.0	4.8	3.2
7	4.0	3.2	2.9	1.4	2.0	3.8	1.4	2.7	3.0	4.0	4.4	3.2
8	3.5	2.9	2.9	1.1	2.0	3.5	1.4	2.7	3.0	4.0	4.1	3.8
9	3.5	2.7	2.7	23	2.0	3.2	1.1	2.7	3.0	4.0	3.8	6.2
10	3.5	2.7	2.4	18	2.0	4.1	1.1	2.4	3.0	4.0	3.8	5.9
11	3.5	2.4	3.2	1.3	2.0	4.4	1.3	2.0	3.0	4.0	5.1	4.4
12	3.5	2.4	3.5	1.3	2.0	5.9	1.3	1.8	3.0	4.0	4.8	5.1
13	3.5	2.7	3.8	1.3	2.0	7.2	1.3	1.8	4.0	4.0	4.1	5.1
14	3.2	2.7	2.4	1.3	2.0	5.1	1.4	1.8	4.0	4.0	3.2	6.7
15	2.9	2.4	2.0	1.4	2.0	3.5	2.0	1.8	4.0	4.0	3.5	9.1
16	2.7	2.7	2.0	1.3	2.0	3.5	2.2	1.4	4.0	4.0	37	7.6
17	2.9	2.9	2.0	1.3	2.0	4.1	2.7	1.3	4.0	4.0	408	7.6
18	3.2	2.9	2.2	1.3	2.0	4.8	2.4	1.3	4.4	4.0	586	8.1
19	3.2	2.7	2.2	1.3	2.0	5.1	2.4	1.4	4.1	4.0	440	5.9
20	3.5	2.7	2.2	1.4	2.5	4.8	5.1	1.3	4.4	4.0	9.0	5.1
21	3.5	17	2.9	1.4	3.0	4.8	4.1	1.1	5.1	4.0	156	6.3
22	3.8	17	2.9	1.4	3.0	4.8	3.5	1.1	5.5	4.0	369	6.7
23	3.5	9.1	3.2	1.4	3.0	4.4	4.1	1.1	5.9	4.0	267	6.7
24	3.2	2.9	3.2	1.4	3.0	3.2	4.1	1.4	4.8	4.0	96	6.7
25	3.5	2.2	3.2	1.4	3.0	3.2	3.5	1.6	3.8	4.0	93	6.3
26	3.5	2.0	3.2	1.4	3.0	2.7	2.9	1.8	4.0	4.0	32	5.9
27	3.8	1.8	3.2	1.4	3.0	3.5	3.5	1.8	4.0	4.0	2.0	5.9
28	3.2	1.8	2.9	1.4	3.0	4.4	4.4	1.8	4.0	4.0	2.2	5.1
29	3.5	2.0	2.2	1.4	---	2.4	4.8	1.8	4.0	4.0	2.4	5.5
30	3.5	2.4	2.2	1.4	---	2.2	5.1	1.8	4.0	4.0	2.4	5.5
31	3.2	---	2.4	1.4	---	2.2	---	1.8	---	4.0	2.9	---
TOTAL	108.8	114.4	84.1	191.7	61.8	121.4	76.2	63.7	108.0	124.0	2568.0	163.0
MEAN	3.51	3.81	2.71	6.18	2.21	3.92	2.54	2.05	3.60	4.00	82.8	5.43
MAX	4.0	17	3.8	67	3.0	7.2	5.1	4.4	5.9	4.0	586	9.1
MIN	2.7	1.8	2.0	1.1	1.4	2.2	1.1	1.1	1.8	4.0	2.0	2.9
AC-FT	216	227	167	380	123	241	151	126	214	246	5090	323
CAL YR 1976	TOTAL	8548.8	MEAN 23.4	MAX 473	MIN 1.8	AC-FT 16960						
WTR YR 1977	TOTAL	3785.1	MEAN 10.4	MAX 586	MIN 1.1	AC-FT 7510						



## 10260500 DEEP CREEK NEAR HESPERIA, CA

LOCATION.--Lat 34°20'28", long 117°13'39", in NW¼NE¼SE¼ sec.18, T.3 N., R.3 W., San Bernardino County, on right bank 0.5 mi (0.8 km) upstream from confluence with West Fork Mojave River, and 7 mi (11 km) southeast of Hesperia.

DRAINAGE AREA.--134 mi<sup>2</sup> (347 km<sup>2</sup>).

PERIOD OF RECORD.--October 1904 to September 1922, October 1929 to current year. Monthly discharge only prior to January 1930, published in WSP 1314.

GAGE.--Water-stage recorder. Broad-crested weir since December 1938. Altitude of gage is 3,050 ft (930 m), from topographic map. See WSP 1314 for history of change prior to Dec. 10, 1938.

REMARKS.--Records good. Slight regulation by Lake Arrowhead, capacity, 48,000 acre-ft (59.2 hm<sup>3</sup>), used principally for recreation.

AVERAGE DISCHARGE.--66 years, 64.9 ft<sup>3</sup>/s (1.838 m<sup>3</sup>/s), 47,020 acre-ft/yr (58.0 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 46,600 ft<sup>3</sup>/s (1,320 m<sup>3</sup>/s) Mar. 2, 1938, based on slope-area measurement of maximum flow; no flow July 17, 18, 1961.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 696 ft<sup>3</sup>/s (19.7 m<sup>3</sup>/s) May 8 (2300 hrs), gage height, 3.22 ft (0.981 m), no other peak above base of 400 ft<sup>3</sup>/s (11.3 m<sup>3</sup>/s); minimum daily discharge, 0.24 ft<sup>3</sup>/s (0.007 m<sup>3</sup>/s) Aug. 15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.9	6.1	6.2	11	14	13	18	9.7	20	2.6	4.7	1.8
2	4.8	6.0	6.2	9.3	14	13	17	9.5	19	2.4	3.9	1.8
3	6.2	6.4	6.2	33	13	12	17	9.5	19	2.4	3.2	1.9
4	4.9	5.9	6.7	22	12	11	16	9.4	18	2.3	2.9	1.9
5	4.8	5.8	8.9	17	12	11	20	9.4	17	2.2	3.6	1.8
6	4.4	5.8	6.5	16	12	10	25	9.3	15	2.1	4.1	1.7
7	4.1	5.6	6.4	16	11	10	26	9.7	14	2.0	3.3	1.4
8	3.7	5.8	6.5	15	11	9.9	25	107	13	1.9	4.1	1.1
9	3.2	5.8	6.2	12	12	9.8	24	324	12	1.7	4.5	.91
10	3.2	5.8	6.2	10	13	9.6	23	151	11	1.5	4.7	.74
11	3.4	5.9	6.2	11	11	9.5	21	128	10	1.6	4.9	.79
12	3.4	6.7	6.2	11	11	9.3	20	109	9.5	8.0	5.1	.81
13	3.0	8.1	6.1	10	11	9.4	19	99	9.0	8.3	5.4	1.3
14	13	8.5	6.1	10	12	9.4	18	93	8.4	6.2	3.1	1.5
15	24	7.2	6.0	9.9	13	9.3	17	89	7.9	6.9	.24	1.5
16	13	6.7	6.1	10	14	9.7	16	87	7.4	7.6	.45	1.5
17	5.3	7.0	6.2	10	14	12	15	91	6.5	6.4	4.0	1.1
18	4.1	6.5	6.0	11	14	12	16	96	6.3	2.1	9.9	1.4
19	9.3	6.5	6.0	14	13	12	15	103	5.9	1.5	6.8	2.1
20	19	6.5	6.0	16	13	12	14	77	5.9	1.1	3.8	2.1
21	9.8	6.4	6.0	19	13	12	12	75	5.9	.91	2.9	1.7
22	11	6.3	5.8	26	16	13	11	65	5.6	1.1	2.2	2.8
23	11	6.3	5.6	22	30	13	8.7	49	5.0	1.9	2.1	4.4
24	10	6.2	5.9	21	21	12	6.4	39	4.3	2.0	1.8	4.6
25	7.8	6.3	5.7	18	20	16	5.5	34	4.2	2.4	1.7	4.8
26	6.4	6.3	5.8	18	17	17	8.2	32	3.6	2.6	1.7	5.0
27	6.3	6.2	6.2	18	15	17	10	29	3.4	3.0	1.8	6.1
28	6.1	6.0	6.5	17	14	23	10	25	3.2	3.5	1.6	7.5
29	7.1	5.9	6.2	16	---	24	10	23	2.9	4.2	1.5	8.4
30	6.2	6.0	7.2	16	---	21	9.8	22	2.7	4.5	1.5	8.7
31	6.3	---	12	15	---	20	---	21	---	5.0	1.7	---
TOTAL	229.7	190.5	199.8	480.2	396	401.9	473.6	2034.5	275.6	101.91	103.19	83.15
MEAN	7.41	6.35	6.45	15.5	14.1	13.0	15.8	65.6	9.19	3.29	3.33	2.77
MAX	24	8.5	12	33	30	24	26	324	20	8.3	9.9	8.7
MIN	3.0	5.6	5.6	9.3	11	9.3	5.5	9.3	2.7	.91	.24	.74
AC-FT	456	378	396	952	785	797	939	4040	547	202	205	165
CAL YR 1976 TOTAL	9110.69			MEAN 24.9	MAX 1480	MIN .53	AC-FT 18070					
WTR YR 1977 TOTAL	4970.05			MEAN 13.6	MAX 324	MIN .24	AC-FT 9860					

## MOJAVE RIVER BASIN

10261000 WEST FORK MOJAVE RIVER NEAR HESPERIA, CA

LOCATION.--Lat 34°20'20", long 117°15'25", in NW¼NW¼ sec.24, T.3 N., R.4 W., San Bernardino County, on left bank on upstream wingwall of concrete double box culvert on Arrowhead Lake Road, 0.1 mi (0.2 km) northeast of junction with Highway 174, 4.5 mi (7.2 km) downstream from Cedar Springs Dam, and 6.5 mi (10.5 km) southeast of Hesperia.

DRAINAGE AREA.--70.3 mi<sup>2</sup> (182 km<sup>2</sup>).

PERIOD OF RECORD.--October 1904 to September 1922, October 1929 to September 1971, October 1974 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 3,040 ft (927 m), from topographic map. Prior to June 30, 1922, nonrecording gage on water-stage recorder 1.6 mi (2.6 km) downstream at different datum. June 30, 1922 to September 1971, water-stage recorder 1.5 mi (2.4 km) downstream at different datum. June 30, 1942 to April 14, 1966, at datum 2.00 ft (0.61 m) higher than datum then in use.

REMARKS.--Records fair. Regulation upstream at Cedar Springs Dam since 1972.

AVERAGE DISCHARGE.--60 years (water years 1905-22, 1930-71), 39.4 ft<sup>3</sup>/s (102 m<sup>3</sup>/s), 28,550 acre-ft/yr (35.2 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 26,100 ft<sup>3</sup>/s (739 m<sup>3</sup>/s) Mar. 2, 1938, by slope-area measurement of maximum flow; no flow for several months in each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 302 ft<sup>3</sup>/s (8.55 m<sup>3</sup>/s) May 8, gage height, 2.48 ft (0.756 m); no flow most of year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1				0	2.2	0	.20	0	4.2			
2				0	2.2	0	.20	0	3.7			
3				64	2.1	0	.16	0	2.8			
4				18	2.0	0	.08	0	.91			
5				19	1.9	0	.03	0	.01			
6				17	1.9	0	0	0	0			
7				27	1.9	0	0	0	0			
8				17	1.8	0	0	52	0			
9				12	1.8	0	0	131	0			
10				10	1.8	0	0	90	0			
11				9.1	1.8	0	0	58	0			
12				5.9	1.8	0	0	42	0			
13				5.6	1.7	0	0	29	5.0			
14				5.3	1.7	0	0	14	42			
15				4.7	.28	0	0	22	2.8			
16				4.4	.18	0	0	30	0			
17				4.2	.14	0	0	9.1	0			
18				4.2	.09	0	0	7.8	0			
19				4.7	.03	0	0	8.6	0			
20				4.4	0	0	0	8.2	0			
21				4.7	0	0	0	7.4	0			
22				4.4	0	0	0	6.2	0			
23				2.8	0	0	0	5.6	0			
24				1.6	0	0	0	6.6	0			
25				2.0	0	0	0	5.6	0			
26				5.9	0	0	0	4.7	0			
27				5.3	0	3.1	0	4.4	0			
28				4.7	0	3.6	0	4.2	0			
29				4.2	---	.35	0	3.9	0			
30				2.8	---	.20	0	3.7	0			
31		---		2.4	---	.23	---	4.4	---			---
TOTAL	0	0	0	277.3	27.32	7.48	.67	558.4	61.42	0	0	0
MEAN	0	0	0	8.95	.98	.24	.022	18.0	2.05	0	0	0
MAX	0	0	0	64	2.2	3.6	.20	131	42	0	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	0	0	550	54	15	1.3	1110	122	0	0	0
CAL YR 1976	TOTAL	3127.86	MEAN 8.55	MAX 886	MIN 0	AC-FT 6200						
WTR YR 1977	TOTAL	932.59	MEAN 2.56	MAX 131	MIN 0	AC-FT 1850						

10261100 MOJAVE RIVER BELOW FORKS RESERVOIR, NEAR HESPERIA, CA

## WATER-QUALITY RECORDS

LOCATION.--Lat 34°20'38", long 117°14'15", in SW¼NE¼SW¼ sec.18, T.3 N., R.3 W., San Bernardino County.

DRAINAGE AREA.--211 mi<sup>2</sup> (546 km<sup>2</sup>).

PERIOD OF RECORD.--

CHEMICAL ANALYSES: October 1966 to September 1968, water years 1969-71, 1974 to current year.

COOPERATION.--Chemical analyses were furnished by California Department of Water Resources, discharge furnished by Corps of Engineers.

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (JTU)	DIS-SOLVED OXYGEN (MG/L)	NON-CARBONATE HARDNESS (MG/L)	DIS-SOLVED CALCIUM (CA) (MG/L)
DEC 01...	1055	51	340	7.8	5.0	10	11.5	0	30
JAN 29...	1345	100	300	7.9	10.0	4	10.7	0	25
APR 22...	1100	22	240	7.9	16.5	25	9.0	0	22
JUL 26...	1010	43	560	7.6	23.5	3	6.5	0	8.0

DATE	DIS-SOLVED MAGNESIUM (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	PERCENT SODIUM	SODIUM ADSORPTION RATIO	DIS-SOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	ALKALINITY AS CaCO3 (MG/L)	CARBON DIOXIDE (CO2) (MG/L)
DEC 01...	3.6	35	45	1.6	3.0	120	0	100	3.0
JAN 29...	5.0	26	40	1.2	2.0	110	0	87	2.2
APR 22...	4.0	23	40	1.2	2.0	100	0	86	2.0
JUL 26...	6.0	58	69	3.8	10	71	0	58	2.9

DATE	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLORIDE (CL) (MG/L)	DIS-SOLVED FLUORIDE (F) (MG/L)	DIS-SOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	DIS-SOLVED NITRATE (N) (MG/L)	DIS-SOLVED NITRATE (NO3) (MG/L)	DIS-SOLVED BORON (B) (UG/L)
DEC 01...	36	14	1.2	169	.23	23.3	.56	2.5	140
JAN 29...	19	20	1.2	171	.23	46.2	1.1	4.8	80
APR 22...	18	10	1.2	182	.25	10.8	1.2	5.3	90
JUL 26...	43	43	.7	298	.41	34.6	6.1	27	280

## MOJAVE RIVER BASIN

10261500 MOJAVE RIVER AT LOWER NARROWS, NEAR VICTORVILLE, CA  
(National stream-quality accounting network station)

LOCATION.--Lat 34°34'23", long 117°19'11", in SW¼SW¼SE¼ sec.29, T.6 N., R.4 W., San Bernardino County, on left bank 650 ft (198 m) upstream from bridge on county road, formerly U.S. Highway 66, 0.6 mi (1.0 km) downstream from Atchison, Topeka, and Santa Fe Railway bridge, 3 mi (5 km) northwest of Victorville, and 33 mi (53 km) downstream from Silverwood Lake.

DRAINAGE AREA.--513 mi<sup>2</sup> (1,329 km<sup>2</sup>), revised.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--February 1899 to September 1906, October 1930 to current year. Monthly discharge only for January to September 1906, October, November 1930, published in WSP 1314. Prior to October 1936, published as "at Victorville" and as "near Victorville" in 1937.

GAGE.--Water-stage recorder. Datum of gage is 2,643.01 ft (805.589 m) above mean sea level. See WSP 1314 for history of gage changes prior to Mar. 28, 1938. Mar. 28, 1938, to Apr. 14, 1966, at site 350 ft (107 m) upstream at datum 5.00 ft (1.52 m) higher; Apr. 14, 1966, to July 17, 1969, at site 350 ft (107 m) upstream at datum 3.00 ft (0.91 m) higher.

REMARKS.--Records fair. Regulation by Lake Arrowhead, capacity, 48,000 acre-ft (59.2 hm<sup>3</sup>) used principally for recreation, Silverwood Lake, capacity, 78,000 acre-ft (96.2 hm<sup>3</sup>) used for the storage and distribution of imported water and recreation, and by Mojave Forks Reservoir since June 1970, capacity, 89,700 acre-ft (111 hm<sup>3</sup>) with ungated opening, capacity, 23,500 ft<sup>3</sup>/s (666 m<sup>3</sup>/s). Since 1970 effluent from Mojave State Fish Hatchery diverted to Spring Valley Lake. Diversions and pumping for irrigation of about 5,000 acres (20.2 km<sup>2</sup>) above station.

AVERAGE DISCHARGE.--54 years (water years 1900-06, 1931-77), 71.0 ft<sup>3</sup>/s (2.011 m<sup>3</sup>/s), 51,440 acre-ft/yr (63.4 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 70,600 ft<sup>3</sup>/s (2,000 m<sup>3</sup>/s) Mar. 2, 1938, gage height, 23.7 ft (7.22 m), present datum, from rating curve extended above 10,000 ft<sup>3</sup>/s (283 m<sup>3</sup>/s) on basis of slope-area measurement of maximum flow; minimum daily, 3.4 ft<sup>3</sup>/s (0.096 m<sup>3</sup>/s) July 25, 1975.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 966 ft<sup>3</sup>/s (27.4 m<sup>3</sup>/s) Oct. 22, gage height, 4.22 ft (1.286 m); minimum daily, 14 ft<sup>3</sup>/s (0.40 m<sup>3</sup>/s) July 24-28, 31, Aug. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	53	44	46	57	59	41	50	38	25	25	15	19
2	61	47	46	58	59	41	56	37	26	25	14	20
3	59	45	46	68	56	42	50	41	27	21	17	19
4	61	45	46	54	58	41	49	42	30	24	18	19
5	62	44	46	55	56	42	50	39	30	24	18	21
6	62	41	45	53	59	41	50	42	29	24	18	21
7	62	45	45	52	60	41	50	42	29	25	17	21
8	62	44	45	51	60	39	47	54	26	24	19	21
9	62	45	45	50	60	41	50	53	26	23	21	21
10	62	45	45	50	60	39	45	47	26	24	20	21
11	62	44	44	49	61	37	49	41	25	21	21	21
12	62	54	45	48	67	35	56	42	26	23	21	21
13	62	49	48	47	62	38	39	39	27	24	21	21
14	62	49	54	46	58	35	38	38	26	21	23	21
15	62	47	55	46	52	37	32	38	26	20	25	21
16	62	49	55	46	52	39	35	38	25	19	32	21
17	62	54	55	45	47	35	37	37	25	20	43	21
18	62	49	55	45	47	35	37	37	23	19	23	21
19	62	45	55	44	45	32	32	35	23	17	23	21
20	62	43	56	42	47	35	32	35	23	17	23	21
21	62	41	56	44	45	41	34	34	24	17	23	21
22	128	40	61	44	50	41	34	31	21	17	23	21
23	60	41	62	45	47	42	34	32	21	15	23	21
24	38	42	70	49	45	44	35	38	21	14	23	21
25	38	43	66	50	47	49	35	34	20	14	21	20
26	38	45	62	50	45	54	44	31	24	14	21	20
27	42	47	60	50	45	52	41	31	23	14	21	23
28	44	47	58	50	47	50	39	30	25	14	21	24
29	42	47	56	54	---	47	37	29	25	15	21	24
30	42	47	56	56	---	50	38	29	26	16	21	24
31	44	---	56	58	---	50	---	24	---	14	20	---
TOTAL	1804	1368	1640	1556	1496	1286	1255	1158	753	604	670	632
MEAN	58.2	45.6	52.9	50.2	53.4	41.5	41.8	37.4	25.1	19.5	21.6	21.1
MAX	128	54	70	68	67	54	56	54	30	25	43	24
MIN	38	40	44	42	45	32	32	24	20	14	14	19
AC-FT	3580	2710	3250	3090	2970	2550	2490	2300	1490	1200	1330	1250

CAL YR 1976 TOTAL 13035 MEAN 35.6 MAX 200 MIN 14 AC-FT 25850  
WTR YR 1977 TOTAL 14222 MEAN 39.0 MAX 128 MIN 14 AC-FT 28210

## 10261500 MOJAVE RIVER AT LOWER NARROWS, NEAR VICTORVILLE, CA--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1967 to current year.

CHEMICAL ANALYSES: Water years 1967 to current year; water years 1969-74 (partial-record station).

WATER TEMPERATURES: March 1962 to water year 1965, June 1975 to current year.

SEDIMENT RECORDS: Water year 1975 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: June 1975 to current year.

WATER TEMPERATURES: March 1962 to September 1965, June 1975 to current year.

INSTRUMENTATION.--Specific conductance recorder since June 1965. Temperature recorder from March 1962 to September 1965 and since June 1975.

REMARKS.--Periods of missing conductivity and temperature data were due to sand accumulation around probes.

COOPERATION.--The letter "A" following a date indicates chemical-quality data that was furnished by California Department of Water Resources.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum recorded, 726 micromhos Jan. 23, 1976; minimum recorded, 248 micromhos May 8, 1977.

WATER TEMPERATURES: Maximum, 34.5°C July 23, Aug. 14, 1962; minimum, 3.0°C Jan. 2, 1976.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum recorded, 608 micromhos Mar. 19, 20; minimum recorded, 248 micromhos May 8.

WATER TEMPERATURES: Maximum recorded, 31.5°C July 22, 23 and 30; minimum recorded, 6.5°C Dec. 11 and Feb. 26.

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	DIS-SOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)
OCT									
26...	1130	36	430	7.9	19.0	302	295	.41	29.4
NOV									
23...	1000	38	435	7.8	13.0	282	277	.38	28.9
DEC									
01... A	1255	46	470	7.7	15.6	246	--	.33	30.6
10...	1000	45	430	7.8	10.0	281	280	.38	34.1
JAN									
19...	1000	42	436	7.8	11.0	279	268	.38	31.6
29... A	1600	54	490	7.8	15.6	272	--	.37	39.7
FEB									
15...	0930	48	421	7.8	10.5	258	265	.35	33.4
MAR									
16...	1345	42	430	8.0	16.5	264	266	.36	29.9
APR									
13...	1200	40	453	7.7	23.0	281	235	.38	30.3
22... A	1230	32	445	7.8	23.3	274	--	.37	23.7
MAY									
19...	1100	36	434	7.4	18.5	273	251	.37	26.5
19...	1400	35	--	--	23.3	--	--	--	--
JUN									
16...	1215	25	457	7.5	24.0	265	277	.36	17.9
JUL									
20...	0815	20	480	7.5	17.5	301	296	.41	16.3
26... A	1215	16	490	8.0	30.6	289	--	.39	12.5
AUG									
18...	1330	23	492	7.3	26.5	305	308	.41	18.9
SEP									
22...	1230	23	470	7.4	22.5	274	288	.37	17.0

10261500 MOJAVE RIVER AT LOWER NARROWS, NEAR VICTORVILLE, CA--Continued

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	FECAL COLI- FORM .7UM-MF (COL./ 100 ML)	FECAL STREP- TOCOCCHI KF AGAR (COL. PER 100 ML)	HARD- NESS (CA+MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)
OCT											
26...	1130	36	25	--	90	152	150	0	44	8.6	44
NOV											
23...	1000	38	9	--	40	820	130	0	40	8.2	42
DEC											
01...A	1255	46	7	8.0	--	--	140	0	41	8.3	42
10...	1000	45	3	--	814	814	130	0	41	7.7	42
JAN											
19...	1000	42	4	--	82	86	140	0	41	8.3	40
29...A	1600	54	5	7.9	--	--	140	0	41	8.0	43
FEB											
15...	0930	48	4	--	81	81	130	0	39	8.7	39
MAR											
16...	1345	42	4	--	81	8202	130	0	40	8.0	39
APR											
13...	1200	40	15	--	87	118	140	46	41	8.2	42
22...A	1230	32	2	6.8	--	--	140	0	42	8.0	44
MAY											
19...	1100	36	2	--	--	88	130	0	25	8.0	39
JUN											
16...	1215	25	2	--	811	174	140	0	43	8.2	43
JUL											
20...	0815	20	2	--	25	344	150	0	44	8.9	47
26...A	1215	16	1	5.6	--	--	150	0	45	8.0	48
AUG											
18...	1330	23	2	--	46	8690	150	0	45	8.6	49
SEP											
22...	1230	23	2	--	819	308	140	0	42	8.4	44

DATE	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	ALKA- LINITY AS CACO3 (MG/L)	CARBON DIOXIDE (CO2) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SiO2) (MG/L)
OCT											
26...	39	1.6	5.5	198	0	162	4.0	41	29	.5	25
NOV											
23...	40	1.6	4.5	185	0	152	4.7	43	25	.4	23
DEC											
01...A	39	1.6	5.0	180	0	150	5.7	40	25	.4	--
10...	40	1.6	4.4	190	0	160	4.8	41	25	.4	25
JAN											
19...	38	1.5	4.1	180	0	148	4.6	38	23	.5	24
29...A	40	1.6	2.0	180	0	150	4.6	38	25	.5	--
FEB											
15...	38	1.5	4.1	172	0	141	4.4	37	29	.4	23
MAR											
16...	38	1.5	4.2	170	0	139	2.7	41	27	.5	22
APR											
13...	39	1.6	4.4	110	0	110	3.5	39	23	.5	23
22...A	40	1.6	3.0	190	0	150	4.8	40	26	.5	--
MAY											
19...	38	1.5	3.9	180	0	148	11	38	25	.5	23
JUN											
16...	39	1.6	4.5	180	0	150	9.1	39	27	.5	23
JUL											
20...	40	1.7	4.6	190	0	160	9.6	43	30	.6	24
26...A	41	1.7	4.0	190	0	160	3.0	45	32	.4	--
AUG											
18...	41	1.8	5.3	190	0	160	15	48	31	.6	27
SEP											
22...	40	1.6	4.6	190	0	160	12	40	27	.5	28

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

10261500 MOJAVE RIVER AT LOWER NARROWS, NEAR VICTORVILLE, CA--Continued

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (NO3) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	DIS- SOLVED ORTHO. PHOS- PHORUS (P) (MG/L)	DIS- SOLVED ORTHO PHOS- PHATE (PO4) (MG/L)	DIS- SOLVED BORON (B) (UG/L)	TOTAL PHYTO- PLANK- TON (CELLS PER ML)
OCT 26...	3.7	--	.45	4.2	18	.34	--	--	--	19
NOV 23...	1.7	--	.17	1.9	8.3	.26	--	--	--	29
DEC 01...A	--	--	--	--	--	--	.18	.55	120	--
10...	1.1	--	.29	1.4	6.2	.23	--	--	--	94
JAN 19...	1.1	--	.63	1.7	7.7	.23	--	--	--	350
29...A	--	--	--	--	--	--	.18	.55	110	--
FEB 15...	.98	--	.78	1.8	7.8	.19	--	--	--	550
MAR 16...	.97	--	.70	1.7	7.4	.26	--	--	--	--
APR 13...	1.3	--	1.1	2.4	11	.22	--	--	--	--
22...A	--	--	--	--	--	--	.19	.58	130	--
MAY 19...	.88	1.1	.24	1.1	5.0	.19	--	--	--	1400
JUN 16...	.94	--	.96	1.9	8.4	.24	--	--	--	1400
JUL 20...	.90	--	.66	1.6	6.9	.32	--	--	--	1100
26...A	--	--	--	--	--	--	--	.26	90	--
AUG 18...	1.1	--	1.2	2.3	10	.39	--	--	--	1100
SEP 22...	1.1	.43	--	--	--	.33	--	--	--	1100

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	TOTAL ARSENIC (AS) (UG/L)	SUS- PENDE D ARSENIC (AS) (UG/L)	DIS- SOLVED ARSENIC (AS) (UG/L)	TOTAL CAD- MIUM (CD) (UG/L)	SUS- PENDE D CAD- MIUM (CD) (UG/L)	DIS- SOLVED CAD- MIUM (CD) (UG/L)	TOTAL CHRO- MIUM (CR) (UG/L)	SUS- PENDE D CHRO- MIUM (CR) (UG/L)	DIS- SOLVED CHRO- MIUM (CR) (UG/L)	TOTAL COBALT (CO) (UG/L)	SUS- PENDE D COBALT (CO) (UG/L)
OCT 26...	1130	3	1	2	<10	<10	0	0	0	0	<50	<48
JAN 19...	1000	2	0	2	<10	<10	0	0	0	0	<50	<50
APR 13...	1200	2	0	2	<10	<9	1	0	0	0	0	0
JUL 20...	0815	4	1	3	10	6	4	0	0	0	<50	<50

DATE	DIS- SOLVED COBALT (CO) (UG/L)	TOTAL COPPER (CU) (UG/L)	SUS- PENDE D COPPER (CU) (UG/L)	DIS- SOLVED COPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	SUS- PENDE D LEAD (PB) (UG/L)	DIS- SOLVED LEAD (PB) (UG/L)	TOTAL MAN- GANESE (MN) (UG/L)	SUS- PENDE D MAN- GANESE (MN) (UG/L)
OCT 26...	2	--	--	--	3600	180	<100	<95	5	110	80
JAN 19...	0	<10	<9	1	980	40	<100	<98	2	60	20
APR 13...	0	20	19	1	1000	40	<100	<97	3	40	20
JUL 20...	0	10	8	2	720	20	100	72	28	80	50

DATE	DIS- SOLVED MAN- GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	SUS- PENDE D MERCURY (HG) (UG/L)	DIS- SOLVED MERCURY (HG) (UG/L)	TOTAL SELE- NIUM (SE) (UG/L)	SUS- PENDE D SELE- NIUM (SE) (UG/L)	DIS- SOLVED SELE- NIUM (SE) (UG/L)	TOTAL ZINC (ZN) (UG/L)	SUS- PENDE D ZINC (ZN) (UG/L)	DIS- SOLVED ZINC (ZN) (UG/L)	TOTAL ORGANIC CARBON (C) (MG/L)
OCT 26...	30	--	--	.0	0	0	0	40	0	40	4.4
JAN 19...	40	.0	.0	.0	0	0	0	10	0	10	2.4
APR 13...	20	.0	.0	.0	0	--	1	--	--	10	3.1
JUL 20...	30	.0	.0	.1	0	0	0	10	4	6	4.1



## 10261500 MOJAVE RIVER AT LOWER NARROWS, NEAR VICTORVILLE, CA--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

## PHYTOPLANKTON

DATE TIME	OCT 26,76 1130	NOV 23,76 1000	DEC 10,76 1000	JAN 19,77 1000	FEB 15,77 0930	
TOTAL CELLS/ML	19	29	94	350	550	
DIVERSITY: DIVISION	0.0	0.4	0.8	1.4	1.4	
..CLASS	0.0	0.4	0.8	1.5	1.4	
...ORDER	0.0	1.0	1.4	1.6	1.6	
....FAMILY	0.0	2.5	2.3	2.6	2.6	
....GENUS	0.0	2.5	2.4	2.8	2.7	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)						
..CHLOROPHYCEAE						
...CHLOROCOCCALES						
....CHARACIACEAE						
....CHARACIUM	--	-	--	-	--	-
....HYDRODICTYACEAE						
....PEDIASTRUM	--	-	--	-	--	-
....OOCYSTACEAE						
....ANKISTRODESMUS	--	-	--	-	4	1
....TETRAEDRON	--	-	--	-	--	-
....SCENEDESMACEAE						
....SCENEDESMUS	--	-	--	-	--	-
...VOLVOCALES					10	2
....CHLAMYDOMONADACEAE						
....CARTERIA	--	-	--	-	--	-
....CHLAMYDOMONAS	--	-	--	-	4	1
..ZYGNEMATALES						
...ZYGNEMATACEAE						
....SPIROGYRA	--	-	--	-	--	-
					34	6
CHRYSOPHYTA						
..BACILLARIOPHYCEAE						
...CENTRALES						
....COSCINODISCACEAE						
....CYCLOTELLA	--	-	5#	17	16#	17
					4	1
					7	1
....MELOSIRA	--	-	--	-	--	-
....STEPHANODISCUS	--	-	--	-	--	-
...PENNALES						
....ACHNANTHACEAE						
....ACHNANTHES	--	-	8	0	--	-
....COCCONEIS	--	-	8	0	--	-
....CYMBELLACEAE						
....AMPHORA	--	-	2	8	--	-
....CYMBELLA	--	-	--	-	--	-
....FRAGILARIACEAE						
....FRAGILARIA	--	-	--	-	--	-
....SYNEDRA	--	-	2	8	4	4
....GOMPHONEMATACEAE						
....GOMPHONEMA	--	-	2	8	4	4
....MERIDIONACEAE					13	4
....MERIDION	--	-	--	-	--	-
					7	1
...NAVICULACEAE						
....NAVICULA	--	-	12#	42	20#	22
....NEIDIUM	--	-	--	-	--	-
....PINNULARIA	--	-	--	-	--	-
....STAUROEIS	--	-	--	-	2	2
....NITZSCHACEAE						
....DENTICULA	--	-	--	-	--	-
....HANTZSCHIA	--	-	--	-	4	1
....NITZSCHIA	19#	100	2	8	27#	28
					40	11
					76	14
CYANOPHYTA (BLUE-GREEN ALGAE)						
..CYANOPHYCEAE						
...CHROCOCCALES						
....CHROCOCCACEAE						
....AGMENELLUM	--	-	--	-	--	-
...HORMOGONALES						
....NOSTOCACEAE						
....APHANIZOMENON	--	-	--	-	--	-
....OSCILLATORACEAE						
....LYNGBYA	--	-	8	0	--	-
....OSCILLATORIA	--	-	--	-	20#	22
....SPIRULINA	--	-	2	8	--	-
....PHORMIDIUM	--	-	--	-	--	-

See footnotes at end of table.

## 10261500 MOJAVE RIVER AT LOWER NARROWS, NEAR VICTORVILLE, CA--Continued

## QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

## PHYTOPLANKTON

## EUGLENOPHYTA (EUGLENOIDS)

..CRYPTOPHYCEAE						
...CRYPTOMONIDALES						
...CRYPTOCHRYSIDACEAE						
....CHROOMONAS	--	-	--	-	--	-
...CRYPTOMONODACEAE						
....CRYPTOMONAS	--	-	--	-	18	5
..EUGLENOPHYCEAE						
...EUGLENALES						
....EUGLENACEAE						
.....EUGLENA	--	-	--	-	4	1
.....PHACUS	--	-	--	-	--	-

DATE TIME	MAY 19,77 1100	JUN 16,77 1215	JUL 20,77 0815	AUG 18,77 1330	SEP 22,77 1230
TOTAL CELLS/ML	1400	1400	1100	1100	1100
DIVERSITY: DIVISION	1.2	1.4	1.1	0.2	0.4
..CLASS	1.2	1.5	1.1	0.2	0.4
...ORDER	1.4	2.1	1.6	0.3	0.4
....FAMILY	1.9	3.2	3.1	0.3	1.9
.....GENUS	1.9	3.3	3.5	1.0	1.9

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)										
..CHLOROPHYCEAE										
...CHLOROCOCCALES										
....CHARACIACEAE										
.....CHARACIUM	--	-	10	1	--	-	--	-	--	-
...HYDRODICTYACEAE										
....PEDIASTRUM	--	-	--	-	38	4	--	-	--	-
...OOCYSTACEAE										
....ANKISTRODESMUS	--	-	10	1	--	-	--	-	--	-
....TETRAEDRON	--	-	10	1	--	-	--	-	--	-
...SCENEDESMACEAE										
....SCENEDESMUS	78	6	280#	20	48	4	--	-	--	-
...VOLVOCALES										
....CHLAMYDOMONADACEAE										
....CARTERIA	--	-	--	-	--	-	10	1	--	-
....CHLAMYDOMONAS	34	2	94	7	67	6	--	-	55	5
...ZYGNEMATALES										
....ZYGNEMATAACEAE										
.....SPIROGYRA	--	-	--	-	--	-	--	-	--	-
CHRYSTOPHYTA										
..BACILLARIOPHYCEAE										
...CENTRALES										
....COSCINODISCACEAE										
.....CYCLOTELLA	59	4	73	5	48	4	*	0	--	-
....MELOSIRA	*	0	--	-	--	-	--	-	--	-
....STEPHANODISCUS	--	-	--	-	48	4	*	0	--	-
...PENNALES										
....ACHNANTHACEAE										
....ACHNANTHES	44	3	42	3	140	13	--	-	140	13
....COCCONEIS	15	1	--	-	--	-	10	1	--	-
...CYMBELLACEAE										
....AMPHORA	--	-	--	-	120	11	--	-	--	-
....CYMBELLA	39	3	100	8	96	9	--	-	--	-
...FRAGILARIACEAE										
....FRAGILARIA	10	1	--	-	--	-	--	-	--	-
....SYNEDRA	*	0	10	1	110	10	*	0	66	6
...GOMPHONEMACEAE										
....GOMPHONEMA	*	0	63	5	10	1	*	0	--	-
...MERIDIONACEAE										
.....MERIDION	--	-	--	-	--	-	--	-	--	-
...NAVICULACEAE										
....NAVICULA	78	6	100	8	240#	22	--	-	560#	51
....NEIDIUM	--	-	--	-	19	2	--	-	--	-
....PINNULARIA	--	-	10	1	--	-	--	-	--	-
....STAURONEIS	--	-	--	-	--	-	--	-	--	-
...NITZSCHACEAE										
....DENTICULA	--	-	--	-	--	-	--	-	--	-
....HANTZSCHIA	--	-	--	-	--	-	--	-	--	-
....NITZSCHIA	64	5	380#	27	19	2	--	-	270#	24

See footnotes at end of table.

10261500 MOJAVE RIVER AT LOWER NARROWS, NEAR VICTORVILLE, CA--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

## PHYTOPLANKTON

## CYANOPHYTA (BLUE-GREEN ALGAE)

.CYANOPHYCEAE							
..CHROCOCCALES							
...CHROCOCCACEAE							
....AGMENELLUM	--	-	84	6	--	-	--
...HORMOGONALES							
...NOSTOCACEAE							
....APHANIZOMENON	--	-	--	-	77	7	--
...OSCILLATORIA							
....OSCILLATORIA	--	-	--	-	--	-	--
....LYNGBYA	970#	68	84	6	--	-	860#
....OSCILLATORIA	--	-	--	-	--	-	79
....SPIRULINA	--	-	--	-	--	-	--
....PHORMIDIUM	--	-	--	-	--	-	190#

## EUGLENOPHYTA (EUGLENOIDS)

.CRYPTOPHYCEAE							
..CRYPTOMONIDALES							
...CRYPTOCHRYSIDACEAE							
....CHROOMONAS	--	-	--	-	19	2	--
...CRYPTOMONODACEAE							
....CRYPTOMONAS	*	0	10	1	--	-	--
.EUGLENOPHYCEAE							
..EUGLENALES							
...EUGLENACEAE							
....EUGLENA	10	1	--	-	--	-	--
....PHACUS	--	-	10	1	--	-	--

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%

\* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

## SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	---	---	---	474	422	444	---	---	---	---	---	---
2	---	---	---	464	434	446	---	---	---	---	---	---
3	---	---	---	474	424	446	---	---	---	---	---	---
4	---	---	---	482	410	447	---	---	---	---	---	---
5	---	---	---	484	434	458	---	---	---	---	---	---
6	---	---	---	474	432	454	---	---	---	---	---	---
7	---	---	---	476	422	447	---	---	---	---	---	---
8	---	---	---	470	428	447	---	---	---	---	---	---
9	---	---	---	464	420	442	---	---	---	---	---	---
10	---	---	---	466	418	437	---	---	---	---	---	---
11	---	---	---	460	410	435	---	---	---	---	---	---
12	---	---	---	446	336	413	---	---	---	---	---	---
13	---	---	---	452	410	422	---	---	---	---	---	---
14	---	---	---	446	398	422	---	---	---	---	---	---
15	---	---	---	448	404	422	---	---	---	---	---	---
16	---	---	---	440	378	410	---	---	---	---	---	---
17	---	---	---	428	374	404	---	---	---	---	---	---
18	---	---	---	512	368	430	---	---	---	---	---	---
19	---	---	---	506	428	468	---	---	---	---	---	---
20	---	---	---	490	384	428	---	---	---	454	414	435
21	---	---	---	454	346	401	---	---	---	446	396	419
22	---	---	---	426	354	401	---	---	---	448	402	420
23	---	---	---	450	382	413	---	---	---	446	404	416
24	---	---	---	---	---	---	---	---	---	428	396	410
25	---	---	---	---	---	---	---	---	---	424	380	401
26	---	---	---	---	---	---	---	---	---	426	378	398
27	---	---	---	---	---	---	---	---	---	422	368	398
28	---	---	---	---	---	---	---	---	---	426	350	395
29	474	436	450	---	---	---	---	---	---	428	358	388
30	476	440	452	---	---	---	---	---	---	440	330	394
31	478	438	453	---	---	---	---	---	---	438	338	388
MONTH	---	---	---	---	---	---	---	---	---	---	---	---

DAY	FEBRUARY			MARCH			APRIL			MAY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	412	348	380	---	---	---	452	380	413	460	412	429
2	416	344	380	---	---	---	452	396	415	458	396	429
3	412	350	380	---	---	---	454	364	406	466	404	430
4	420	340	383	---	---	---	454	360	402	458	402	427
5	422	346	384	---	---	---	442	356	398	460	400	426
6	424	350	386	---	---	---	442	350	395	452	412	420
7	428	360	398	---	---	---	444	342	396	448	402	421
8	426	360	394	---	---	---	440	346	392	438	248	379
9	430	360	390	---	---	---	438	352	394	406	278	376
10	434	368	402	---	---	---	454	362	407	432	382	402
11	432	362	400	---	---	---	452	358	406	430	382	408
12	440	342	398	---	---	---	438	356	396	436	384	404
13	422	350	388	---	---	---	456	340	407	438	384	406
14	434	358	392	---	---	---	462	398	419	436	384	403
15	486	374	409	---	---	---	456	410	430	434	382	398
16	440	388	408	---	---	---	464	406	428	434	382	404
17	446	394	417	500	374	430	454	392	419	442	390	406
18	440	392	424	562	478	518	456	408	424	426	368	403
19	438	384	411	608	542	573	466	412	433	444	382	403
20	438	388	415	608	542	571	470	400	436	454	402	419
21	438	370	409	568	494	527	466	412	436	456	402	420
22	434	382	414	520	460	490	460	412	424	460	408	428
23	440	390	418	490	400	441	464	416	429	448	392	412
24	440	398	416	462	400	429	462	412	429	442	382	413
25	440	392	415	438	362	410	456	398	429	446	388	412
26	436	382	417	428	364	391	470	410	434	440	380	410
27	440	396	417	430	358	391	468	408	437	446	392	415
28	460	392	416	448	358	397	474	416	437	456	392	422
29	---	---	---	448	362	407	466	416	439	450	390	415
30	---	---	---	446	376	409	456	400	421	450	402	427
31	---	---	---	456	378	418	---	---	---	456	406	431
MONTH	486	340	402	---	---	---	474	340	418	466	248	413

## 10261500 MOJAVE RIVER AT LOWER NARROWS, NEAR VICTORVILLE, CA--Continued

## SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	JUNE			JULY			AUGUST			SEPTEMBER		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	462	412	434	484	438	465	496	450	484	486	446	468
2	464	414	437	482	438	462	502	460	489	482	444	461
3	460	416	427	488	440	461	502	462	489	482	440	459
4	462	416	430	482	440	450	500	462	487	482	440	461
5	460	416	443	484	438	456	504	464	487	482	440	461
6	456	412	430	480	436	454	500	466	483	482	442	457
7	458	410	432	482	436	456	500	464	486	480	440	456
8	454	402	426	480	432	458	500	462	485	478	440	460
9	456	410	427	482	434	460	502	462	485	480	438	463
10	450	390	415	492	438	460	502	470	484	480	428	457
11	446	394	425	484	434	465	502	468	488	482	440	465
12	448	398	412	492	438	464	504	468	490	478	434	449
13	452	394	416	518	438	481	504	468	489	476	434	451
14	454	388	420	516	466	485	504	478	488	480	438	449
15	456	382	426	486	432	461	500	466	482	478	436	452
16	462	400	423	524	440	478	494	356	460	478	434	455
17	474	418	442	482	438	469	508	312	426	476	430	449
18	476	428	446	482	434	461	500	460	483	474	430	449
19	476	428	450	484	432	462	498	460	476	474	432	451
20	472	418	442	488	442	470	496	454	474	468	430	445
21	470	418	440	492	440	471	498	452	470	474	428	453
22	472	426	443	494	440	473	490	448	461	474	428	447
23	474	428	452	494	442	475	490	440	458	470	430	440
24	474	428	452	504	444	477	488	440	460	472	430	447
25	474	434	455	500	450	478	488	440	460	472	430	451
26	472	428	450	500	450	476	488	444	458	470	424	444
27	472	434	452	500	452	480	488	442	453	468	428	445
28	480	430	459	498	458	481	490	448	467	470	420	447
29	476	430	450	500	436	480	490	446	468	468	422	443
30	482	434	459	504	466	489	488	442	463	466	418	434
31	---	---	---	500	460	486	486	448	467	---	---	---
MONTH	482	382	437	524	432	469	508	312	474	486	418	452
YEAR	608	248	437									

## TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	24.0	15.0	18.0	20.5	10.0	14.0	12.0	9.5	10.5	---	---	---
2	22.5	13.5	17.0	20.5	10.5	14.5	12.5	10.0	11.0	---	---	---
3	24.5	13.5	17.5	21.0	10.5	14.5	12.5	9.5	11.0	---	---	---
4	25.0	11.5	18.0	20.5	10.5	14.0	12.5	10.0	11.0	---	---	---
5	24.5	13.0	17.5	20.5	10.0	14.5	12.5	10.0	11.0	---	---	---
6	25.5	12.0	18.0	20.5	10.0	14.0	12.0	9.5	10.5	---	---	---
7	23.5	13.5	17.0	20.0	10.0	14.0	12.0	9.0	10.5	---	---	---
8	24.0	11.5	16.5	20.0	10.0	14.0	12.0	9.0	10.5	---	---	---
9	23.5	11.5	17.0	20.0	10.5	14.0	11.5	9.5	10.5	---	---	---
10	24.5	12.0	17.0	19.5	10.0	13.5	14.0	7.0	10.0	---	---	---
11	24.0	11.5	17.0	18.0	10.0	13.5	15.5	6.5	10.5	---	---	---
12	23.0	12.0	16.5	15.5	11.0	13.5	12.5	8.0	10.0	---	---	---
13	23.0	12.0	16.5	18.5	10.5	13.5	13.0	7.5	10.0	---	---	---
14	23.5	11.5	16.5	15.5	11.0	13.0	13.0	8.5	10.0	---	---	---
15	23.5	11.5	16.5	18.5	10.5	13.5	12.5	8.5	10.0	---	---	---
16	23.0	12.0	16.5	19.0	10.5	13.5	12.5	8.0	10.0	---	---	---
17	23.0	11.5	16.5	18.0	11.0	14.0	12.0	8.5	10.0	---	---	---
18	24.0	13.5	17.0	17.0	11.5	14.0	12.0	9.0	10.0	---	---	---
19	23.0	12.0	16.5	15.5	12.5	14.0	12.5	9.5	10.5	---	---	---
20	19.5	12.5	15.5	15.5	12.5	14.0	12.5	9.0	10.5	16.5	10.0	12.0
21	21.5	14.0	16.5	16.0	12.5	14.0	11.0	8.0	9.5	13.5	10.0	12.0
22	---	---	---	15.0	12.5	13.5	11.0	8.0	9.0	15.5	9.5	11.5
23	---	---	---	18.0	10.5	13.5	10.5	8.0	9.0	16.5	9.5	12.0
24	---	---	---	15.5	10.5	12.5	10.5	7.5	9.0	16.0	8.0	11.0
25	---	---	---	15.0	10.5	12.5	---	---	---	13.5	9.0	11.0
26	---	---	---	14.5	11.5	12.5	---	---	---	15.5	10.0	12.0
27	19.0	10.5	13.5	12.5	10.5	11.5	---	---	---	14.0	8.5	11.0
28	20.5	9.5	13.5	11.5	9.0	10.0	---	---	---	15.0	9.5	12.0
29	21.0	9.5	14.0	11.5	9.0	10.0	---	---	---	14.5	10.0	11.5
30	20.5	10.5	14.0	12.0	9.0	10.5	---	---	---	13.0	9.0	10.5
31	20.5	10.0	14.0	---	---	---	---	---	---	13.0	8.5	10.5
MONTH	25.5	9.5	16.5	21.0	9.0	13.5	---	---	---	---	---	---



10261500 MOJAVE RIVER AT LOWER NARROWS, NEAR VICTORVILLE, CA--Continued

## PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	TEMPER- ATURE (DEG C)	SUS- PENDE SEDI- MENT (MG/L)	SUS- PENDE SEDI- MENT DIS- CHARGE (T/DAY)	SUS. SED. SIEVE DIAM. % FINER THAN .062 MM
OCT						
26...	1130	36	19.0	440	43	37
NOV						
23...	1000	38	13.0	138	14	19
DEC						
10...	1000	45	10.0	301	37	9
JAN						
19...	1000	42	11.0	77	8.7	21
FEB						
15...	0930	48	10.5	157	20	8
MAR						
16...	1345	42	16.5	198	22	9
APR						
13...	1200	40	23.0	118	13	22
MAY						
19...	1100	36	18.5	92	8.9	17
JUN						
16...	1215	25	24.0	89	6.0	38
JUL						
20...	0815	20	17.5	79	4.3	49
AUG						
18...	1330	23	26.5	52	3.2	40
SEP						
22...	1230	23	22.5	91	5.7	30

## 10262000 MOJAVE RIVER NEAR HODGE, CA

LOCATION.--Lat 34°50'09", long 117°11'27", in SW¼SE¼SE¼ sec.28, T.9 N., R.3 W., San Bernardino County, at county bridge 1.5 mi (2.4 km) north of Hodge, 10.9 mi (17.5 km) southwest of Barstow, and 44.5 mi (71.6 km) downstream from Silverwood Lake.

DRAINAGE AREA.--1,091 mi<sup>2</sup> (2,826 km<sup>2</sup>).

PERIOD OF RECORD.--October 1930 to September 1932, October 1970 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Altitude of gage is 2,260 ft (689 m), from topographic map. Prior to Oct. 1, 1970, at different datum.

REMARKS.--Records poor. Regulation by Lake Arrowhead, capacity, 48,000 acre-ft (59.2 hm<sup>3</sup>) used principally for recreation, Silverwood Lake, capacity, 78,000 acre-ft (96.2 hm<sup>3</sup>) used for the storage and distribution of imported water and recreation, and Mojave Forks Reservoir, capacity, 89,700 acre-ft (111 hm<sup>3</sup>), with ungated opening, capacity, 23,500 ft<sup>3</sup>/s (666 m<sup>3</sup>/s). Diversion and pumping for irrigation of about 12,000 acres (48.6 km<sup>2</sup>) above station.

AVERAGE DISCHARGE.--9 years, (water years 1931-32, 1971-77), 10.2 ft<sup>3</sup>/s (0.289 m<sup>3</sup>/s), 7,390 acre-ft/yr (9.11 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,900 ft<sup>3</sup>/s (252 m<sup>3</sup>/s) Feb. 9, 1932, gage height, 5.20 ft (1.585 m), datum then in use; no flow all or most of each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7.2 ft<sup>3</sup>/s (0.20 m<sup>3</sup>/s) Jan. 3, gage height, 4.85 ft (1.48 m), no peak above base of 100 ft<sup>3</sup>/s (2.83 m<sup>3</sup>/s); no flow for most of year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1				0	.05	.14						
2				0	.01	0						
3				1.0	0	0						
4				.66	0	0						
5				0	0	0						
6				0	.02	0						
7				0	.05	0						
8				0	.07	0						
9				0	.08	0						
10				0	0	0						
11				0	.03	0						
12				0	.03	0						
13				0	.05	0						
14				0	.12	0						
15				0	.16	0						
16				0	.13	0						
17				0	.23	0						
18				0	.12	0						
19				0	.13	0						
20				0	.19	0						
21				0	.11	0						
22				0	.14	0						
23				0	.57	0						
24				.02	.57	0						
25				.14	.07	0						
26				.07	0	0						
27				.05	0	0						
28				.09	0	0						
29				.10	---	0						
30				.01	---	0						
31		---		0	---	0	---		---			---
TOTAL	0	0	0	2.14	2.93	.14	0	0	0	0	0	0
MEAN	0	0	0	.069	.10	.005	0	0	0	0	0	0
MAX	0	0	0	1.0	.57	.14	0	0	0	0	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	0	0	4.2	5.8	.3	0	0	0	0	0	0

CAL YR 1976 TOTAL 0.00 MEAN .0000 MAX .00 MIN 0 AC-FT .0  
WTR YR 1977 TOTAL 5.21 MEAN .014 MAX 1.0 MIN 0 AC-FT 10



LOCATION.--Lat 34°54'25", long 117°01'19", in SE¼SW¼ sec.31, T.10 N., R.1 W., San Bernardino County, on left bank 75 ft (23 m) upstream from bridge on U.S. Highway 91 at Barstow.

PERIOD OF RECORD.--October 1930 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2,089.34 (636.831 m) above mean sea level.

REMARKS.--Records poor. Regulation by Lake Arrowhead, capacity, 48,000 acre-ft (59.2 hm<sup>3</sup>) used principally for recreation, Silverwood Lake, capacity, 78,000 acre-ft (96.2 hm<sup>3</sup>) used for the storage and distribution of imported water and recreation, and Mojave Forks Reservoir, capacity, 89,700 acre-ft (111 hm<sup>3</sup>) with ungated opening, capacity, 23,500 ft<sup>3</sup>/s (666 m<sup>3</sup>/s). Diversions and pumping for irrigation of about 15,000 acres (60.7 km<sup>2</sup>) above station.

AVERAGE DISCHARGE.--46 years, 21.6 ft<sup>3</sup>/s (0.612 m<sup>3</sup>/s), 15,650 acre-ft/yr (19.3 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 64,300 ft<sup>3</sup>/s (1,820 m<sup>3</sup>/s) Mar. 3, 1938, gage height, 8.60 ft (2.621 m), on basis of slope-area measurement of maximum flow; no flow for most months each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 13 ft<sup>3</sup>/s (0.37 m<sup>3</sup>/s) Aug. 17, on basis of estimate of maximum flow; no flow most of year.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1											0	
2											0	
3											0	
4											0	
5											0	
6											0	
7											0	
8											0	
9											0	
10											0	
11											0	
12											0	
13											0	
14											0	
15											0	
16											0	
17											1.0	
18											0	
19											0	
20											0	
21											0	
22											0	
23											0	
24											0	
25											0	
26											0	
27											0	
28											0	
29					---						0	
30					---						0	
31		---			---		---		---		0	---
TOTAL	0	0	0	0	0	0	0	0	0	0	1.0	0
MEAN	0	0	0	0	0	0	0	0	0	0	.032	0
MAX	0	0	0	0	0	0	0	0	0	0	1.0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	0	0	0	0	0	0	0	0	0	2.0	0
CAL YR 1976	TOTAL	0.50	MEAN .0010	MAX .50	MIN 0	AC-FT 1.0						
WTR YR 1977	TOTAL	1.00	MEAN .0030	MAX 1.0	MIN 0	AC-FT 2.0						

## MOJAVE RIVER BASIN

10263000 MOJAVE RIVER AT AFTON, CA

LOCATION.--Lat 35°02'14", long 116°23'00", in SW¼NW¼SE¼ sec.18, T.11 N., R.6 E., San Bernardino County, on downstream end of right pier of Union Pacific Railroad bridge, 0.3 mi (0.5 km) west of Afton.

DRAINAGE AREA.--2,121 mi<sup>2</sup> (5,493 km<sup>2</sup>).

PERIOD OF RECORD.--October 1929 to September 1932, October 1952 to current year. Records for the water year 1930 incomplete, yearly estimate published in WSP 1314.

GAGE.--Water-stage recorder. Datum of gage is 1,400.15 ft (426.766 m) above mean sea level. Dec. 21, 1929, to Sept. 30, 1932, at site 1.7 mi (2.7 km) downstream at different datum.

REMARKS.--Records poor. Natural flow affected by ground-water withdrawals, diversions, municipal use, and storage in upstream reservoirs 100 mi (160 km) upstream (station 10261500).

AVERAGE DISCHARGE.--28 years, 5.14 ft<sup>3</sup>/s (0.146 m<sup>3</sup>/s), 3,720 acre-ft/yr (4.59 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 18,000 ft<sup>3</sup>/s (510 m<sup>3</sup>/s) Jan. 26, 1969, gage height, 10.40 ft (3.170 m), from rating curve extended above 3,200 ft<sup>3</sup>/s (90.6 m<sup>3</sup>/s) on basis of slope-area measurement of maximum flow; no flow at times many years.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 100 ft<sup>3</sup>/s (2.832 m<sup>3</sup>/s) and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)
Aug. 15	2200	304 8.61	6.37 1.942
Aug. 17	0830	275 7.79	6.64 2.024
Sept. 10	1830	*366 10.4	6.64 2.024

Minimum daily discharge, no flow July 1 to Aug. 14, Sept. 6-9.

DISCHARGE, IN CURIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.21	.53	.53	.89	1.1	1.1	.53	.07	.01	0		.01
2	.15	.53	.53	1.1	1.1	1.1	.53	.07	.01	0		.01
3	.15	.53	.69	1.8	1.1	1.1	.53	.07	.01	0		.01
4	.15	.69	.69	.89	1.1	1.1	.53	.07	.01	0		.01
5	.21	.69	.69	.89	1.1	1.1	.53	.04	.01	0		.01
6	.21	.69	.69	2.2	1.1	1.1	.29	.04	.01	0	0	
7	.21	.53	.69	1.4	1.4	1.1	.29	.07	.01	0	0	
8	.21	.39	.89	.89	1.4	1.1	.15	.10	.01	0	0	
9	.21	.39	.89	.89	1.4	.69	.10	.21	.01	0	0	
10	.21	.53	.89	1.1	1.4	.69	.15	.29	.01	0	50	
11	.21	.69	.89	.69	1.4	.69	.15	.21	.01	0	6.4	
12	.21	.69	.89	.69	1.8	.89	.15	.15	.01	0	1.1	
13	.21	.69	.89	.69	1.8	.53	.15	.29	.01	0	.25	
14	.21	.69	.89	.69	1.8	.53	.15	.21	.01	0	.13	
15	.21	.69	.69	.69	1.8	.53	.15	.15	.01	45	.13	
16	.21	.53	.69	.69	1.8	.53	.15	.10	.01	29	.13	
17	.15	.53	.69	.69	1.8	.53	.10	.04	.01	156	.13	
18	.15	.53	.89	.69	2.2	.53	.10	.07	.01	4.4	.13	
19	.21	.53	.89	.89	2.2	.53	.10	.10	.01	.29	.13	
20	.21	.53	.89	.89	2.2	.53	.15	.10	.01	.07	.13	
21	.29	.69	.69	.89	2.2	.53	.15	.10	.01	.04	.13	
22	.29	.69	.89	.89	1.8	.53	.15	.04	.01	.03	.13	
23	.29	.69	.89	.89	2.2	.53	.15	.01	.01	.03	.13	
24	.29	.69	.69	.89	1.8	.39	.15	.10	.01	.04	.13	
25	.29	.69	.69	.89	1.8	.53	.10	.15	.01	.02	.13	
26	.29	.89	.69	.89	1.8	.89	.10	.10	.01	.02	.14	
27	.29	.69	.69	.89	1.8	.69	.10	.04	.01	.02	.14	
28	.29	.53	.69	1.1	1.8	.53	.10	.06	.01	.02	.14	
29	.29	.53	.89	1.1	---	.53	.07	.01	.01	.02	.14	
30	.39	.69	.89	1.1	---	.53	.07	.01	.01	.02	.14	
31	.39	---	.89	.89	---	.53	---	.01	---	.02	---	
TOTAL	7.29	18.38	24.07	29.77	46.2	22.21	6.12	3.08	.30	0	235.04	60.06
MEAN	.24	.61	.78	.96	1.65	.72	.20	.099	.010	0	7.58	2.00
MAX	.39	.89	.89	2.2	2.2	1.1	.53	.29	.01	0	156	50
MIN	.15	.39	.53	.69	1.1	.39	.07	.01	.01	0	0	0
AC-FT	14	36	48	59	92	44	12	6.1	.6	0	466	119

CAL YR 1976 TOTAL 190.84 MEAN .52 MAX 79 MIN 0 AC-FT 379  
WTR YR 1977 TOTAL 452.52 MEAN 1.24 MAX 156 MIN 0 AC-FT 898

## 10263500 BIG ROCK CREEK NEAR VALYERMO, CA

LOCATION.--Lat 34°25'15", long 117°50'19", in NW¼SE¼NE¼ sec.20, T.4 N., R.9 W., Los Angeles County, on left bank 0.1 mi (0.2 km) upstream from Punchbowl Canyon, and 1.9 mi (3.1 km) southeast of Valyermo.

DRAINAGE AREA.--22.9 mi<sup>2</sup> (59.3 km<sup>2</sup>).

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1923 to current year. Monthly discharge only for October 1937 to January 1939, published in WSP 1314. Prior to October 1954, published as Rock Creek near Valyermo.

GAGE.--Water-stage recorder. Altitude of gage is 4,050 ft (1,234 m), from topographic map. Prior to May 4, 1938, at same site at different datums. May 4, 1938, to Jan. 26, 1939, at site 0.2 mi (0.3 km) downstream (below Punchbowl Canyon) at different datum.

REMARKS.--Records good. No regulation or diversion above station. Some infiltration into the streambed in the immediate vicinity of station.

AVERAGE DISCHARGE.--54 years (water years 1924-77), 15.4 ft<sup>3</sup>/s (0.436 m<sup>3</sup>/s), 11,160 acre-ft/yr (13.8 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,300 ft<sup>3</sup>/s (235 m<sup>3</sup>/s) Mar. 2, 1938, on basis of slope-area measurement of maximum flow; minimum daily, 0.70 ft<sup>3</sup>/s (0.020 m<sup>3</sup>/s) Nov. 5, 1951.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 68 ft<sup>3</sup>/s (1.93 m<sup>3</sup>/s) May 8 (1800 hrs), gage height, 3.89 ft (1.186 m), no other peak above base of 50 ft<sup>3</sup>/s (1.42 m<sup>3</sup>/s); minimum daily 3.7 ft<sup>3</sup>/s (0.10 m<sup>3</sup>/s) Dec. 22, 24-29.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.4	4.5	4.6	3.9	6.4	6.8	6.4	6.4	18	10	7.3	5.8
2	6.4	4.5	4.8	4.4	6.4	6.1	6.1	6.1	17	10	7.5	7.1
3	6.2	4.4	4.7	8.7	6.4	6.1	5.9	5.8	16	9.8	6.8	7.1
4	6.2	4.3	4.2	6.6	6.1	6.1	5.8	5.5	16	10	7.8	7.1
5	6.2	4.3	3.9	6.4	6.1	5.8	5.8	5.5	17	10	8.0	6.4
6	6.0	4.2	4.2	6.2	6.4	5.8	5.7	5.8	17	9.8	8.3	7.1
7	6.0	4.2	4.2	6.2	6.1	5.8	6.4	5.8	15	9.7	7.9	7.1
8	6.0	4.2	4.1	6.2	6.1	5.5	7.8	30	14	9.7	8.2	7.4
9	5.8	4.1	4.3	6.1	6.8	5.5	8.3	27	13	9.9	8.1	6.8
10	5.8	4.2	4.8	6.1	6.4	5.5	8.2	18	13	9.9	8.1	6.4
11	5.8	4.3	5.0	6.0	6.1	5.2	7.5	18	11	10	8.3	6.1
12	5.8	4.9	4.9	6.0	6.1	5.5	7.4	18	11	10	7.9	7.1
13	5.6	4.5	5.0	6.0	6.1	5.5	7.4	18	11	10	7.6	6.8
14	5.5	4.4	5.3	6.0	6.1	5.5	7.6	20	11	10	7.1	6.8
15	5.0	4.5	4.5	6.0	6.1	4.9	7.7	26	10	10	7.3	6.8
16	5.0	4.4	4.2	6.0	6.1	5.5	7.4	27	11	8.6	7.4	6.8
17	5.0	4.3	3.9	6.0	6.1	5.5	7.7	25	11	7.6	11	6.8
18	5.0	4.6	3.9	6.0	6.4	5.8	8.1	23	11	7.4	8.8	6.4
19	5.1	4.5	4.2	6.0	6.4	5.5	7.9	24	12	7.0	7.9	6.1
20	5.2	4.7	4.2	6.0	6.4	5.5	7.3	25	11	6.8	7.4	5.9
21	5.2	4.6	3.9	10	6.8	5.5	6.9	29	10	6.5	7.4	5.7
22	5.4	4.6	3.7	10	7.1	5.3	7.0	33	10	6.7	7.4	5.9
23	5.3	4.6	3.9	10	7.8	5.3	6.8	32	10	6.7	7.4	5.7
24	5.1	4.9	3.7	9.4	8.6	5.2	6.4	28	10	6.7	7.4	5.5
25	5.1	4.9	3.7	8.6	8.2	5.6	6.4	23	10	7.0	7.1	5.4
26	5.1	4.8	3.7	8.2	7.5	6.0	6.8	22	10	7.0	7.1	5.0
27	5.0	4.6	3.7	7.8	7.1	6.8	6.8	21	10	7.0	6.8	5.0
28	5.0	4.3	3.7	7.5	6.8	6.5	6.8	21	10	7.0	6.8	4.9
29	5.0	4.1	3.7	7.1	---	6.6	6.4	20	10	7.0	6.4	4.6
30	4.9	4.6	4.2	7.1	---	6.7	6.4	19	10	7.2	6.4	4.6
31	4.6	---	4.2	6.8	---	6.5	---	18	---	7.3	5.8	---
TOTAL	169.7	134.0	131.0	213.3	185.0	179.4	209.1	605.9	366	262.3	234.7	186.2
MEAN	5.47	4.47	4.23	6.88	6.61	5.79	6.97	19.5	12.2	8.46	7.57	6.21
MAX	6.4	4.9	5.3	10	8.6	6.8	8.3	33	18	10	11	7.4
MIN	4.6	4.1	3.7	3.9	6.1	4.9	5.7	5.5	10	6.5	5.8	4.6
AC-FT	337	266	260	423	367	356	415	1200	726	520	466	369
CAL YR 1976	TOTAL	2852.0	MEAN 7.79	MAX 118	MIN 2.9	AC-FT 5660						
WTR YR 1977	TOTAL	2876.6	MEAN 7.88	MAX 33	MIN 3.7	AC-FT 5710						

## ANTELOPE VALLEY

10263500 BIG ROCK CREEK NEAR VALVERMO, CA--Continued

## WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: January 1962 to current year.

INSTRUMENTATION.--Temperature recorder since January 1962.

REMARKS.--Periods of missing record were due to recorder malfunction or faulty probe.

EXTREMES FOR PERIOD OF RECORD.--

WATER TEMPERATURES: Maximum 24.0°C Aug. 19, 26, 1970, July 15, 31, 1972; minimum 0.5°C Jan. 4, 1974.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum recorded, 23.0 °C June 30, minimum recorded, 5.0°C Dec. 31.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		---	9.5	---	8.5	8.5	10.0	13.0	15.0	18.0	17.0	15.5
2		---	9.5	---	8.0	8.5	9.5	13.0	15.0	17.5	17.5	16.0
3		---	9.5	---	8.5	9.0	10.5	13.5	15.0	16.5	18.0	16.0
4		---	10.0	---	8.5	9.0	11.5	13.5	15.5	16.5	17.5	16.0
5		---	9.5	---	9.0	9.5	12.5	13.0	15.5	16.5	17.5	16.5
6		---	9.0	---	9.5	10.0	13.0	11.0	15.0	16.0	17.0	17.0
7		---	9.0	---	9.5	10.0	13.0	10.5	16.0	16.0	16.5	16.5
8		---	9.5	---	10.0	11.0	12.5	8.0	16.0	16.5	16.0	16.5
9		---	9.5	---	9.5	11.0	11.5	8.5	15.5	16.5	16.0	16.5
10		---	9.0	---	9.5	9.5	11.5	10.5	14.0	16.0	16.5	16.5
11		---	9.0	---	10.0	9.5	12.0	10.5	14.5	16.0	17.0	16.0
12		---	9.0	---	10.0	10.5	12.5	9.5	14.5	16.0	17.5	15.5
13		---	9.0	---	10.5	10.0	12.5	10.5	14.5	16.0	17.0	15.0
14		---	9.0	---	10.5	9.5	12.5	11.5	14.5	16.5	17.0	15.0
15		---	9.0	---	10.5	10.0	13.0	11.0	15.0	17.5	16.5	14.5
16		---	9.0	---	11.0	8.0	13.5	10.0	15.0	18.0	16.0	14.0
17		---	9.0	---	11.0	10.0	13.5	9.5	15.5	18.0	16.5	14.0
18		11.5	9.0	---	11.0	10.0	12.5	10.5	15.5	17.5	16.5	14.0
19		11.5	9.5	---	11.0	10.5	12.0	10.5	15.5	17.5	17.5	14.5
20		11.5	9.0	9.5	11.0	11.0	12.0	11.5	16.0	17.0	18.0	14.5
21		11.0	8.5	8.5	11.5	11.5	12.5	12.0	16.5	17.0	17.5	14.5
22		11.0	8.5	8.5	10.5	11.5	12.5	11.5	17.5	16.5	17.0	14.5
23		11.0	9.0	8.0	11.0	11.5	13.5	10.0	17.5	16.5	17.0	15.0
24		10.5	8.5	8.0	8.5	10.5	13.5	10.0	17.5	16.5	17.0	15.0
25		10.5	8.5	8.5	8.5	8.0	13.5	11.0	17.5	16.5	16.5	15.0
26		10.5	9.0	8.5	9.0	10.0	13.5	12.0	17.5	16.5	16.0	15.5
27		8.5	9.0	8.5	9.5	11.0	13.5	13.0	17.5	16.5	16.0	15.0
28		8.0	9.5	9.0	10.0	10.5	13.5	13.0	17.0	16.5	16.0	15.0
29		8.5	9.5	9.0	---	10.0	13.0	13.0	17.5	17.0	16.5	15.0
30		9.0	9.5	8.5	---	9.0	13.0	13.5	18.0	17.5	16.5	14.5
31		---	9.5	9.0	---	9.0	---	15.0	---	17.0	16.0	---
MONTH		---	9.0	---	10.0	10.0	12.5	11.5	16.0	17.0	17.0	15.5
YEAR	MAX	18.0		MIN	8.0	MEAN	13.0					

## 10264000 LITTLE ROCK CREEK NEAR LITTLE ROCK, CA

LOCATION.--Lat 34°27'47", long 118°01'04", in SW¼SW¼NE¼ sec.3, T.4 N., R.11 W., Los Angeles County, on right bank 0.3 mi (0.5 km) upstream from Santiago Creek, 1.6 mi (2.6 km) upstream from Little Rock Palmdale Irrigation District's dam, and 5 mi (8 km) south of Little Rock.

DRAINAGE AREA.--49.0 mi<sup>2</sup> (126.9 km<sup>2</sup>).

PERIOD OF RECORD.--October 1930 to February 1938, May to September 1938, April 1939 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 3,290 ft (1,003 m), from topographic map. Prior to May 1943, at site 500 ft (152 m) downstream at different datums.

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

COOPERATION.--Records furnished by Los Angeles County Flood Control District.

AVERAGE DISCHARGE.--45 years (1930-37, 1939-77), 15.9 ft<sup>3</sup>/s (0.450 m<sup>3</sup>/s), 11,520 acre-ft/yr (14.2 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge.--17,000 ft<sup>3</sup>/s (481 m<sup>3</sup>/s), estimated, Mar. 2, 1938; no flow at times in most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 181 ft<sup>3</sup>/s (5.13 m<sup>3</sup>/s) May 8, gage height, 6.65 ft (2.027 m); no flow Aug. 8-19, Sept. 23-30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.3	1.6	2.0	2.9	7.7	7.0	10	4.4	22	2.7	.20	.40
2	2.3	1.6	2.0	2.9	7.4	6.7	9.8	4.6	21	2.7	.10	.30
3	2.3	1.6	2.0	9.4	7.0	6.4	9.8	4.4	19	2.7	.10	.30
4	2.1	1.4	2.0	7.4	7.0	6.1	9.5	4.4	16	2.7	.08	.20
5	2.0	1.2	2.0	6.1	6.7	5.7	10	4.4	14	2.7	.06	.20
6	1.8	1.2	2.0	6.7	6.4	5.4	12	4.4	14	2.7	.04	.20
7	1.6	1.2	2.0	7.7	6.4	5.4	12	4.4	14	2.3	.02	.20
8	1.4	1.4	2.0	6.7	6.4	5.2	14	34	12	2.1	0	.20
9	1.2	1.4	2.0	6.4	6.4	4.9	14	70	11	2.0	0	.20
10	1.2	1.4	2.0	6.4	6.1	4.9	14	48	9.1	1.8	0	.20
11	1.2	1.6	2.0	6.1	6.1	4.6	13	53	9.5	1.8	0	.20
12	1.0	2.5	2.0	6.4	6.4	4.6	12	47	8.4	1.6	0	.10
13	1.0	2.5	2.0	6.4	6.7	4.6	12	38	7.7	1.2	0	.10
14	1.0	2.1	2.0	6.4	7.4	4.6	12	45	7.0	.90	0	.10
15	1.0	2.0	2.0	6.7	7.7	4.6	12	65	6.7	.80	0	.10
16	1.0	1.8	2.0	7.0	7.7	4.6	12	70	6.4	.70	0	.10
17	1.0	1.6	2.0	7.0	7.7	5.2	12	56	6.1	.70	0	.10
18	1.0	1.6	2.0	7.7	8.0	5.2	12	53	5.7	.70	0	.10
19	1.2	1.6	2.1	9.8	7.7	4.9	11	58	5.7	.60	0	.08
20	1.4	1.6	2.1	9.5	7.7	5.2	11	62	5.2	.60	.70	.06
21	1.8	1.6	2.3	14	8.0	4.9	9.1	70	4.9	.70	.70	.04
22	2.1	1.8	2.3	16	9.1	5.2	8.0	74	4.6	.70	.50	.02
23	2.5	1.8	2.1	14	9.1	5.2	7.7	70	4.4	.60	.40	0
24	2.3	1.8	2.1	12	9.5	5.2	7.0	58	4.2	.50	.40	0
25	2.0	1.8	2.1	11	9.5	5.7	6.4	46	3.4	.40	.30	0
26	1.8	1.8	2.1	10	8.7	7.0	6.1	41	3.2	.40	.30	0
27	1.6	1.6	2.3	9.5	7.7	8.7	5.4	39	3.4	.30	.30	0
28	1.4	1.6	2.3	8.7	7.4	10	5.4	35	3.2	.30	.30	0
29	1.4	1.6	2.3	8.4	---	11	5.2	30	2.9	.20	.30	0
30	1.6	1.8	2.7	8.0	---	11	4.9	27	2.9	.20	.30	0
31	1.6	---	2.9	7.7	---	11	---	24	---	.20	.30	---
TOTAL	49.1	50.1	65.7	254.9	209.6	190.7	299.3	1244.0	257.6	38.50	5.40	3.50
MEAN	1.58	1.67	2.12	8.22	7.49	6.15	9.98	40.1	8.59	1.24	.17	.12
MAX	2.5	2.5	2.9	16	9.5	11	14	74	22	2.7	.70	.40
MIN	1.0	1.2	2.0	2.9	6.1	4.6	4.9	4.4	2.9	.20	0	0
AC-FT	97	99	130	506	416	378	594	2470	511	76	11	6.9

CAL YR 1976 TOTAL 2919.10 MEAN 7.98 MAX 270 MIN 0 AC-FT 5790  
WTR YR 1977 TOTAL 2668.40 MEAN 7.31 MAX 74 MIN 0 AC-FT 5290



10264750 PINE TREE CREEK NEAR MOJAVE, CA

LOCATION.--Lat 35°13'50", long 118°05'07", in SW¼NW¼SE¼ sec.14, T.31 S., R.36 E., Kern County, on downstream side of city of Los Angeles aqueduct-siphon pier near right bank, 0.5 mi (0.8 km) downstream from unnamed tributary, and 13 mi (21 km) northeast of Mojave.

DRAINAGE AREA.--33.5 mi<sup>2</sup> (86.8 km<sup>2</sup>).

PERIOD OF RECORD.--July 1958 to current year.

GAGE.--Water-stage recorder with rain-gage attachment. Altitude of gage is 2,700 ft (823 m), from topographic map. Prior to Oct. 1, 1961, at datum 3.0 ft (0.9 m) higher.

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

AVERAGE DISCHARGE.--19 years (water years 1959-77), 0.21 ft<sup>3</sup>/s (0.006 m<sup>3</sup>/s), 152 acre-ft/yr (187,000 m<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 30,000 ft<sup>3</sup>/s (850 m<sup>3</sup>/s) Aug. 23, 1961, on basis of field estimate of maximum flow; no flow most of each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 130 ft<sup>3</sup>/s (3.68 m<sup>3</sup>/s) May 9, gage height, 5.13 ft (1.564 m); no flow most of year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		0		0	.05	0	.10	0			0	
2		0		0	.05	0	.05	0			0	
3		0		0	.05	0	0	0			0	
4		0		0	.05	0	0	0			0	
5		0		0	.05	0	0	0			0	
6		0		1.0	.05	0	0	0			0	
7		0		0	.05	0	0	0			0	
8		0		0	.05	0	0	20			0	
9		0		0	.05	0	0	62			0	
10		0		0	.04	0	0	12			0	
11		0		0	.04	0	0	4.0			0	
12		1.1		0	.04	0	0	1.0			0	
13		0		0	.04	0	0	.50			0	
14		0		0	.04	0	0	0			0	
15		0		0	.04	0	0	0			0	
16		0		0	.03	0	0	0			0	
17		0		0	.03	0	0	0			1.0	
18		0		0	.03	0	0	0			0	
19		0		0	.03	0	0	0			0	
20		0		0	.03	0	0	0			0	
21		0		9.0	.03	0	0	0			0	
22		0		0	1.1	0	0	0			0	
23		0		0	.45	0	0	0			0	
24		0		0	.50	0	0	0			0	
25		0		0	.30	0	0	0			0	
26		0		.02	.10	3.7	0	0			0	
27		0		.20	.05	5.6	0	0			0	
28		0		.10	.02	2.5	0	0			0	
29		0		.30	---	.90	0	0			0	
30		0		.20	---	.70	0	0			0	
31		---		.10	---	.30	---	0			0	---
TOTAL	0	1.1	0	10.92	3.39	13.70	.15	99.50	0	0	1.0	0
MEAN	0	.037	0	.35	.12	.44	.005	3.21	0	0	.032	0
MAX	0	1.1	0	9.0	1.1	5.6	.10	62	0	0	1.0	0
MIN	0	0	0	0	.02	0	0	0	0	0	0	0
AC-FT	0	2.2	0	22	6.7	27	.3	197	0	0	2.0	0
a	0	0.5	0	1.7	0	0.9	0	1.3	0	0.1	1.2	0
CAL YR 1976	TOTAL	2.35	MEAN	.006	MAX	1.1	MIN	0	AC-FT	4		
WTR YR 1977	TOTAL	129.76	MEAN	.36	MAX	62	MIN	0	AC-FT	257		

a Precipitation, in inches

## OWENS LAKE BASIN

10265200 CONVICT CREEK NEAR MAMMOTH LAKES, CA

LOCATION.--Lat 37°36'26", long 118°50'52", in NE $\frac{1}{4}$ NE $\frac{1}{4}$  sec.14, T.4 S., R.28 E., Mono County, on right bank 1.1 mi (1.8 km) downstream from Convict Lake, 2.0 mi (3.2 km) upstream from U.S. Highway 395, and 7.0 mi (11.2 km) southeast of Mammoth Lakes (Ranger Station).

DRAINAGE AREA.--18.2 mi<sup>2</sup> (47.1 km<sup>2</sup>).

PERIOD OF RECORD.--July 1925 to current year. Prior to October 1959 monthly discharge only, published in WSP 1314 and 1734.

REVISIONS.--Revised figures of discharge for the months October, November and December, water year 1976, superseding those published in the report for 1976 are given herein.

GAGE.--Water-stage recorder and wood control. Altitude of gage is 7,450 ft (2,271 m), from topographic map. Prior to Nov. 15, 1926, nonrecording gage at same site and datum.

REMARKS.--Records poor. Some regulation by Convict Lake above station. No diversion above station.

COOPERATION.--Records were furnished by city of Los Angeles, Department of Water and Power.

AVERAGE DISCHARGE.--52 years, 24.1 ft<sup>3</sup>/s (0.683 m<sup>3</sup>/s), 17,460 acre-ft/yr (21.5 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 290 ft<sup>3</sup>/s (8.21 m<sup>3</sup>/s) June 29, 1932, gage height, 4.43 ft (1.350 m); minimum daily, 1.0 ft<sup>3</sup>/s (0.028 m<sup>3</sup>/s) Sept. 20-22, 1974.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	16	13	8.0	8.0	9.0	7.5	9.7	27	20	29	10
2	15	16	13	8.0	8.0	10	7.5	9.7	28	20	29	10
3	15	16	13	8.0	8.0	8.0	7.1	9.7	28	20	28	10
4	15	16	13	8.0	8.0	9.0	6.6	9.8	27	19	26	10
5	15	16	13	8.0	8.0	9.0	6.2	10	27	18	26	11
6	15	15	13	8.0	9.0	8.0	6.2	12	26	17	24	11
7	15	15	13	7.0	9.0	8.0	6.2	13	25	17	23	10
8	15	15	13	7.0	9.0	8.0	6.2	14	25	17	22	10
9	15	14	13	7.0	9.0	8.0	6.2	14	25	17	20	10
10	15	14	13	7.0	9.0	8.0	6.2	15	25	16	20	10
11	18	14	13	8.0	9.0	8.0	5.8	15	25	16	19	13
12	18	14	13	8.0	9.0	8.0	5.8	16	24	16	18	14
13	18	14	13	9.0	9.0	8.0	4.9	18	24	16	17	15
14	18	14	12	9.0	9.0	8.0	3.6	20	23	16	16	16
15	18	14	10	9.0	8.0	7.0	3.6	21	23	16	16	16
16	18	14	10	9.0	8.0	7.0	4.0	25	22	16	15	16
17	18	14	10	9.0	8.0	7.0	4.4	28	23	17	15	15
18	17	14	10	9.0	8.0	7.0	4.9	29	24	16	14	15
19	17	14	10	9.0	8.0	6.0	6.2	30	25	16	14	15
20	17	13	10	9.0	8.0	6.0	7.1	30	25	16	13	14
21	16	13	10	9.0	8.0	6.0	7.5	30	26	15	13	14
22	16	13	10	9.0	8.0	6.0	8.0	30	26	14	13	14
23	16	13	10	8.0	8.0	6.0	8.4	29	26	15	12	14
24	16	13	10	8.0	8.0	6.0	8.8	28	25	16	12	13
25	16	13	10	8.0	8.0	7.0	8.8	28	25	17	11	13
26	16	13	10	8.0	7.0	7.0	8.8	28	22	22	11	13
27	17	13	9.0	8.0	7.0	7.0	9.3	27	21	25	11	13
28	16	13	9.0	8.0	7.0	8.0	9.7	28	21	27	11	12
29	16	13	9.0	8.0	7.0	8.0	9.7	28	21	27	11	12
30	16	13	9.0	8.0	---	8.0	9.7	28	20	28	10	13
31	16	---	9.0	8.0	---	7.0	---	28	---	28	10	---
TOTAL	504	422	346.0	254.0	237.0	233.0	204.9	660.9	734	576	529	382
MEAN	16.3	14.1	11.2	8.19	8.17	7.52	6.83	21.3	24.5	18.6	17.1	12.7
MAX	18	16	13	9.0	9.0	10	9.7	30	28	28	29	16
MIN	15	13	9.0	7.0	7.0	6.0	3.6	9.7	20	14	10	10
AC-FT	1000	837	686	504	470	462	406	1310	1460	1140	1050	758

CAL YR 1975 TOTAL 9953.3 MEAN 27.3 MAX 167 MIN 7.9 AC-FT 19740  
WTR YR 1976 TOTAL 5082.8 MEAN 13.9 MAX 30 MIN 3.6 AC-FT 10080



DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	7.4	6.4	5.4	5.4	5.4	4.0	9.4	14	24	9.8	6.6
2	13	7.4	6.4	5.4	5.3	5.4	4.0	9.7	18	23	9.8	6.6
3	13	7.4	6.2	5.7	5.3	5.3	4.0	10	22	22	9.8	6.0
4	13	7.4	6.2	6.4	5.3	5.3	4.0	9.1	26	21	9.8	6.0
5	13	7.4	6.0	6.4	5.3	5.3	4.0	9.4	29	19	9.4	6.0
6	13	7.4	6.0	6.3	5.3	5.3	4.0	8.5	30	19	9.4	6.0
7	12	7.4	6.0	6.4	5.3	5.3	4.0	8.5	30	19	9.0	6.0
8	12	7.2	6.0	6.3	5.3	5.2	4.0	8.8	31	16	9.0	5.6
9	12	7.2	6.0	6.4	5.3	5.3	4.0	9.4	33	15	6.6	5.6
10	12	7.2	6.0	5.8	5.3	5.1	4.0	9.1	35	14	3.6	5.3
11	11	7.2	6.0	5.7	5.3	5.1	5.0	8.5	34	14	4.4	4.5
12	11	7.2	6.0	5.7	5.3	5.1	5.0	8.8	32	13	4.9	4.5
13	10	7.2	6.0	5.5	5.3	5.1	5.0	9.1	31	13	5.7	4.5
14	9.7	7.0	6.0	5.5	5.3	5.1	5.0	9.1	28	12	6.6	4.5
15	9.7	7.0	6.0	5.5	5.3	5.2	5.0	9.4	27	12	7.2	4.5
16	9.7	7.0	6.0	5.5	5.3	5.2	5.0	8.8	26	12	9.0	4.5
17	9.7	7.0	5.8	5.7	5.3	5.2	5.3	8.8	24	12	9.8	3.8
18	9.7	7.0	5.8	5.7	5.3	5.2	5.7	9.1	24	12	10	4.2
19	9.7	7.0	5.8	5.7	5.3	5.2	6.0	8.8	24	12	10	4.5
20	9.7	7.0	5.8	5.7	5.4	5.2	6.3	8.8	23	12	11	3.8
21	9.7	7.0	5.6	5.7	6.0	5.2	6.7	9.1	22	12	10	3.8
22	9.7	6.8	5.6	5.7	6.0	5.2	6.7	9.4	22	12	9.8	3.8
23	9.7	6.8	5.6	5.7	5.6	5.2	6.7	9.7	22	12	9.4	3.4
24	9.7	6.8	5.6	5.7	5.4	5.2	7.0	10	23	12	9.0	3.8
25	9.2	6.8	5.6	5.7	5.4	5.1	7.3	10	25	11	7.8	3.8
26	8.7	6.8	5.6	5.7	5.4	5.1	7.3	10	26	11	6.6	3.4
27	8.2	6.6	5.6	5.5	5.4	5.1	7.6	10	26	11	6.6	3.4
28	8.2	6.4	5.6	5.5	5.3	4.9	8.0	10	26	11	6.6	3.4
29	8.2	6.4	5.6	5.5	---	4.9	8.3	10	26	11	6.6	3.4
30	8.2	6.4	5.6	5.5	---	4.9	8.6	10	25	10	6.6	3.4
31	8.2	---	5.6	5.5	---	5.1	---	11	---	9.8	6.6	---
TOTAL	323.6	210.8	182.0	178.4	150.7	160.4	167.5	290.3	784	438.8	250.4	138.6
MEAN	10.4	7.03	5.87	5.75	5.38	5.17	5.58	9.36	26.1	14.2	8.08	4.62
MAX	13	7.4	6.4	6.4	6.0	5.4	8.6	11	35	24	11	6.6
MIN	8.2	6.4	5.6	5.4	5.3	4.9	4.0	8.5	14	9.8	3.6	3.4
AC-FT	642	418	361	354	299	318	332	576	1560	870	497	275
CAL YR 1976	TOTAL	4527.2	MEAN	12.4	MAX	30	MIN	3.6	AC-FT	8980		
WTR YR 1977	TOTAL	3275.5	MEAN	8.97	MAX	35	MIN	3.4	AC-FT	6500		

## 10265700 ROCK CREEK AT LITTLE ROUND VALLEY, NEAR BISHOP, CA

LOCATION.--Lat 37°33'15", long 118°41'03", in SE¼SE¼ sec.32, T.4 S., R.30 E., Mono County, on right bank just upstream from diversion to Little Round Valley, 0.6 mi (1.0 km) south of Toms Place, and 20 mi (32 km) north-west of Bishop.

DRAINAGE AREA.--35.8 mi<sup>2</sup> (92.7 km<sup>2</sup>).

PERIOD OF RECORD.--January to December 1918, January 1920 to current year. Prior to October 1959 monthly discharge only, published in WSP 1314 and 1734.

GAGE.--Water-stage recorder. Parshall flume since May 1953. Altitude of gage is 7,280 ft (2,220 m), from topographic map. See WSP 1734 for history of changes prior to May 28, 1953.

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

COOPERATION.--Records were furnished by city of Los Angeles, Department of Water and Power.

AVERAGE DISCHARGE.--57 years (water years 1921-77), 29.2 ft<sup>3</sup>/s (0.827 m<sup>3</sup>/s), 21,160 acre-ft/yr (26.1 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--(1926 to current year): Maximum discharge, 312 ft<sup>3</sup>/s (8.84 m<sup>3</sup>/s) May 30, 1969, gage height, 5.00 ft (1.524 m); minimum daily, 2.2 ft<sup>3</sup>/s (0.062 m<sup>3</sup>/s) Nov. 30, 1971.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	10	8.2	12	7.7	11	9.8	16	17	41	12	9.8
2	20	10	8.7	7.7	8.5	12	8.5	15	21	35	12	9.8
3	19	9.8	7.4	6.5	10	9.3	8.7	15	27	32	12	9.5
4	18	9.8	7.7	8.5	9.8	9.8	9.3	14	32	30	12	9.3
5	17	9.8	7.4	9.0	7.9	8.2	11	14	37	26	12	9.3
6	17	9.8	9.8	8.5	7.7	8.2	11	14	37	23	12	9.0
7	16	9.5	11	8.2	7.7	8.2	12	13	36	21	12	8.7
8	16	9.5	11	8.2	7.9	8.2	12	13	40	20	12	8.5
9	15	9.5	9.3	8.2	7.9	8.2	11	13	53	18	11	8.5
10	15	9.5	14	8.2	7.7	12	11	14	49	18	11	8.2
11	14	9.5	9.3	8.2	7.9	15	11	13	44	17	11	8.5
12	14	9.5	11	8.2	7.9	8.2	12	13	38	16	12	8.5
13	14	9.5	10	8.2	7.9	11	11	13	32	16	11	8.5
14	14	9.5	11	8.2	7.9	11	11	14	29	15	11	8.2
15	13	9.5	10	7.9	7.9	12	11	14	27	15	10	8.2
16	13	9.5	12	7.9	8.2	9.5	15	13	26	15	10	8.2
17	13	9.5	14	7.9	8.2	12	15	13	26	15	12	8.2
18	13	9.5	16	7.9	8.2	12	14	13	28	15	12	8.2
19	12	9.5	15	8.2	8.2	8.7	12	14	29	15	12	7.9
20	12	9.5	9.0	8.2	8.2	8.7	13	13	28	15	12	7.7
21	12	9.3	10	8.2	9.0	8.7	13	14	27	16	12	7.7
22	12	9.3	15	8.2	11	8.7	13	14	25	17	12	7.7
23	12	9.3	15	8.2	11	8.7	14	14	26	16	13	7.4
24	12	8.7	10	8.2	13	8.5	14	14	31	16	12	7.4
25	11	8.7	11	10	14	8.5	15	14	41	15	12	7.2
26	11	9.0	10	7.9	14	8.7	15	14	46	15	11	7.2
27	10	12	7.7	8.2	11	8.5	15	14	49	14	11	7.2
28	10	13	7.7	10	9.5	8.5	15	14	54	13	11	7.2
29	10	8.7	7.4	9.5	---	12	15	14	52	13	11	6.7
30	10	8.5	7.4	8.7	---	15	15	14	47	12	10	7.0
31	10	---	7.7	7.7	---	11	---	15	---	12	10	---
TOTAL	425	288.7	320.7	260.6	255.8	310.0	373.3	429	1054	577	356	245.4
MEAN	13.7	9.62	10.3	8.41	9.14	10.0	12.4	13.8	35.1	18.6	11.5	8.18
MAX	20	13	16	12	14	15	15	16	54	41	13	9.8
MIN	10	8.5	7.4	6.5	7.7	8.2	8.5	13	17	12	10	6.7
AC-FT	843	573	636	517	507	615	740	851	2090	1140	706	487
CAL YR 1976	TOTAL	5896.0	MEAN	16.1	MAX	46	MIN	7.4	AC-FT	11690		
WTR YR 1977	TOTAL	4895.5	MEAN	13.4	MAX	54	MIN	6.5	AC-FT	9710		

LOCATION.--Lat 37°24'59", long 118°37'15", in SE¼NW¼ sec.19, T.6 S., R.31 E., Inyo County, on right bank 0.2 mi (0.3 km) upstream from division box (at Rovana), 1.9 mi (3.1 km) west of Round Valley schoolhouse, and 13 mi (21 km) northwest of Bishop.

PERIOD OF RECORD.--October 1921 to current year. Prior to October 1959 monthly discharge only, published in WSP 1314 and 1734.

GAGE.--Water-stage recorder. Parshall flume since November 1938. Altitude of gage is 5,280 ft (1,609 m), from topographic map.

COOPERATION.--Records were furnished by city of Los Angeles, Department of Water and Power.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 509 ft<sup>3</sup>/s (14.4 m<sup>3</sup>/s) July 2, 1967, gage height, 6.05 ft (1.844 m); minimum daily, 10 ft<sup>3</sup>/s (0.28 m<sup>3</sup>/s) Jan. 8, 1930, Jan. 21, 1935.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	57	27	24	22	22	20	21	33	83	56	23	21
2	54	26	23	23	21	20	21	29	83	52	21	21
3	52	26	23	23	21	19	20	28	83	47	22	22
4	49	26	23	23	21	19	20	27	85	42	22	23
5	45	25	23	22	21	19	20	27	86	38	24	23
6	43	25	23	22	21	19	21	27	80	35	22	21
7	41	25	23	22	20	19	20	26	83	32	22	20
8	39	25	23	22	20	18	21	26	83	30	23	20
9	38	25	23	22	20	19	21	25	101	29	23	20
10	37	25	23	22	19	19	21	24	89	29	21	20
11	35	24	23	22	19	19	21	23	81	28	21	21
12	34	24	24	22	19	20	22	23	71	26	21	21
13	33	25	24	22	20	20	21	23	64	26	21	20
14	32	26	24	22	20	21	21	24	57	26	21	20
15	31	26	23	23	20	21	21	25	54	25	21	20
16	32	25	22	23	20	20	24	25	56	25	21	20
17	31	24	22	23	19	19	30	25	56	26	22	20
18	31	24	22	23	19	19	32	25	52	25	23	21
19	30	24	22	23	19	19	29	25	51	24	24	20
20	30	24	22	21	20	19	26	25	48	25	26	20
21	29	24	22	22	21	19	26	28	44	27	28	20
22	28	24	22	21	20	19	26	36	48	27	27	20
23	28	24	23	21	20	19	28	34	52	26	25	20
24	28	23	23	21	20	20	30	33	54	26	24	20
25	28	24	23	21	19	20	33	31	65	25	24	21
26	27	25	23	21	20	20	37	29	64	24	23	20
27	27	24	22	21	20	21	37	29	83	24	23	20
28	27	24	22	21	20	21	38	33	68	23	24	19
29	26	24	22	22	---	21	40	40	65	23	23	19
30	27	24	22	22	---	21	37	52	57	22	22	19
31	27	---	23	22	---	21	---	68	---	23	22	---
TOTAL	1076	741	706	682	561	610	785	928	2046	916	709	612
MEAN	34.7	24.7	22.8	22.0	20.0	19.7	26.2	29.9	68.2	29.5	22.9	20.4
MAX	57	27	24	23	22	21	40	68	101	56	28	23
MIN	26	23	22	21	19	18	20	23	44	22	21	19
AC-FT	2130	1470	1400	1350	1110	1210	1560	1840	4060	1820	1410	1210
CAL YR 1977	TOTAL	11804	MEAN	32.3	MAX	94	MIN	19	AC-FT	23410		
WTR YR 1977	TOTAL	10372	MEAN	28.4	MAX	101	MIN	18	AC-FT	20570		



## 10271210 BISHOP CREEK BELOW POWERPLANT NO. 6, NEAR BISHOP, CA

LOCATION.--Lat 37°20'59", long 118°27'41", in SE¼SE¼ sec.9, T.7 S., R.32 E., Inyo County, below powerplant No. 6 tailrace, and 3.6 mi (5.8 km) west of Bishop.

DRAINAGE AREA.--104 mi<sup>2</sup> or 269 km<sup>2</sup> (natural flow).

PERIOD OF RECORD.--October 1936 to current year. Monthly and yearly mean discharges prior to October 1969, published in WSP 2127.

GAGE.--None.

REMARKS.--Flow regulated for power development by South Lake, Lake Sabrina, and Intake No. 2 Reservoir, combined capacity, 20,660 acre-ft (25.5 hm<sup>3</sup>) and many powerhouses. Records for "actual flow" include Bishop Creek above powerplant No. 6 tailrace and Bishop Creek powerplant No. 6 conduit. Records for "natural flow" include "actual flow" of Bishop Creek below powerplant No. 6, Abelour ditch near Bishop, minus Birch-McGee diversion to Bishop Creek powerplant near Bishop, and the change in contents and evaporation for South Lake, Lake Sabrina, and Intake No. 2 Reservoir.

COOPERATION.--Records furnished by Southern California Edison Co. and reviewed by the Geological Survey in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE (Actual flow).--42 years, 97.5 ft<sup>3</sup>/s (2.761 m<sup>3</sup>/s), 70,640 acre-ft/yr (87.1 hm<sup>3</sup>/yr).  
(Natural flow).--42 years, 104 ft<sup>3</sup>/s (2.945 m<sup>3</sup>/s), 75,350 acre-ft/yr (92.9 hm<sup>3</sup>/yr).

EXTREMES (ACTUAL FLOW) FOR PERIOD OF RECORD (SINCE 1970).--Maximum daily discharge, 337 ft<sup>3</sup>/s (9.54 m<sup>3</sup>/s) June 28, 1973; minimum daily, 36 ft<sup>3</sup>/s (1.02 m<sup>3</sup>/s) Mar. 15-17, 20-22, 1977.

EXTREMES (ACTUAL FLOW) FOR CURRENT YEAR.--Maximum daily discharge, 105 ft<sup>3</sup>/s (2.97 m<sup>3</sup>/s) July 18; minimum daily, 36 ft<sup>3</sup>/s (1.02 m<sup>3</sup>/s) Mar. 15-17, 20-22.

DISCHARGE, IN CURIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	76	58	52	47	45	41	38	52	49	68	62	62
2	71	61	50	46	45	41	38	49	49	68	62	60
3	65	61	51	47	47	42	38	48	56	79	62	62
4	65	61	51	46	46	42	42	47	59	75	75	62
5	63	61	50	46	44	40	47	50	60	77	64	62
6	63	61	48	47	44	40	45	49	57	77	62	62
7	64	61	46	47	45	38	49	49	64	78	62	62
8	64	53	47	47	44	40	50	51	65	68	64	62
9	64	44	46	47	44	40	49	51	81	70	66	60
10	63	47	47	46	45	40	48	52	67	60	64	60
11	61	46	47	49	45	40	52	51	66	62	62	62
12	61	57	46	44	46	40	48	49	57	64	62	60
13	60	51	45	46	46	39	50	50	60	64	75	61
14	61	48	46	44	43	38	49	49	56	62	64	60
15	52	49	45	46	44	36	48	49	52	62	62	62
16	61	46	46	46	44	36	50	48	55	64	62	60
17	61	46	45	48	43	36	51	48	58	71	66	60
18	61	45	44	46	41	37	48	49	59	105	69	60
19	60	47	45	46	41	39	48	49	59	93	62	62
20	59	47	45	46	42	36	48	49	64	81	71	60
21	60	47	46	46	46	36	47	49	58	76	64	61
22	59	47	47	46	44	36	49	49	60	76	66	59
23	60	47	47	46	46	40	47	49	59	79	62	60
24	59	47	48	46	42	40	45	49	64	76	61	61
25	61	45	49	48	41	38	50	49	68	64	61	60
26	60	45	47	46	41	40	47	49	66	64	60	60
27	58	45	46	47	41	39	49	49	65	65	61	59
28	59	46	46	46	41	40	49	48	67	64	60	60
29	58	45	46	44	---	40	48	49	66	64	62	59
30	58	48	46	45	---	38	49	49	66	64	62	61
31	63	---	46	44	---	38	---	48	---	64	60	---
TOTAL	1910	1512	1456	1431	1226	1206	1416	1526	1832	2204	1977	1821
MEAN	61.6	50.4	47.0	46.2	43.8	38.9	47.2	49.2	61.1	71.1	63.8	60.7
MAX	76	61	52	49	47	42	52	52	81	105	75	62
MIN	52	44	44	44	41	36	38	47	49	60	60	59
AC-FT	3790	3000	2890	2840	2430	2390	2810	3030	3630	4370	3920	3610
(†)	3060	1960	1660	1740	1610	1680	2780	3240	8130	4740	3510	2000

CAL YR 1976 TOTAL 21594 MEAN 59.0 MAX 106 MIN 38 AC-FT 42830 † 40550  
WTR YR 1977 TOTAL 19517 MEAN 53.5 MAX 105 MIN 36 AC-FT 38710 † 36110

† Computed natural flow, in acre-feet.

## OWENS LAKE BASIN

10276000 BIG PINE CREEK NEAR BIG PINE, CA

LOCATION.--Lat 37°08'42", long 118°18'52", in SW¼SW¼SE¼ sec.24, T.9 S., R.33 E., Inyo County, on left bank 0.3 mi (0.5 km) downstream from Little Pine Creek, 0.5 mi (0.8 km) downstream from powerhouse No. 3, and 2.2 mi (3.5 km) southwest of Big Pine.

DRAINAGE AREA.--39.0 mi<sup>2</sup> (101.0 km<sup>2</sup>).

PERIOD OF RECORD.--November 1907 to February 1911, January 1920 to current year; combined records of creek and diversions, June 1930 to current year. Monthly discharge only for some periods, published in WSP 1314 and 1734.

GAGE.--Water-stage recorder and Parshall flume since April 1949 on creek; water-stage recorder and Parshall flume on each diversion. Altitude of creek gage is 4,500 ft (1,372 m), from topographic map. Prior to January 1923, nonrecording gage at same site and datum. Diversion gages at different datum.

REMARKS.--Records poor. No regulation above station. Diversions above station for power and irrigation. At times since 1962 discharge from Little Pine Creek has been spread in nearby meadows and does not reach gage as surface flow. For records of combined discharge of Big Pine Creek and Giroux ditches which divert above station, see following page.

COOPERATION.--Records were furnished by city of Los Angeles, Department of Water and Power.

AVERAGE DISCHARGE.--Combined creek and diversions: 47 years (water years 1931-77), 40.5 ft<sup>3</sup>/s (1.147 m<sup>3</sup>/s), 29,340 acre-ft/yr (36.2 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Creek only: Maximum discharge, 458 ft<sup>3</sup>/s (13.0 m<sup>3</sup>/s) July 3, 1932, gage height, 6.55 ft (1.996 m); minimum daily, no flow Dec. 3-12, 1935. Combined creek and diversions: Maximum discharge, 458 ft<sup>3</sup>/s (13.0 m<sup>3</sup>/s) July 3, 1932; minimum daily, 6.4 ft<sup>3</sup>/s (0.18 m<sup>3</sup>/s) Dec. 11, 12, 1935.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28	14	13	9.8	9.5	8.5	9.8	10	30	58	42	27
2	26	14	14	11	9.0	9.5	9.3	8.5	35	57	42	26
3	24	14	14	11	9.3	9.3	9.5	7.7	35	54	40	26
4	22	14	13	11	9.3	8.7	9.5	7.4	37	43	40	25
5	21	14	13	11	9.3	9.0	10	7.9	37	38	42	25
6	19	14	13	11	9.3	9.3	11	7.2	33	33	40	25
7	19	15	13	11	9.3	9.3	11	6.5	37	33	37	23
8	19	15	13	11	9.3	9.3	11	7.2	42	33	32	23
9	18	15	13	11	9.3	9.5	11	7.7	40	33	33	23
10	18	15	13	11	9.3	8.7	11	7.2	26	33	32	23
11	17	15	13	9.8	9.3	9.8	11	6.5	22	33	33	22
12	17	15	13	10	9.5	10	11	6.7	25	37	33	21
13	16	14	13	10	9.5	9.5	11	6.7	26	40	34	21
14	16	14	11	10	9.5	9.8	12	7.0	25	41	33	18
15	17	13	11	10	9.5	9.0	12	7.9	28	43	32	16
16	19	13	11	10	9.5	10	12	7.7	35	45	29	14
17	18	13	10	10	9.5	9.8	12	6.7	36	43	46	11
18	18	13	11	10	9.5	9.5	12	6.7	27	45	82	11
19	15	13	11	11	9.5	9.5	11	6.7	31	55	56	10
20	15	13	11	11	9.5	9.5	9.8	6.7	21	54	78	7.4
21	15	13	11	11	12	9.5	9.8	8.2	23	45	57	6.7
22	15	13	13	11	11	9.8	10	11	34	42	54	6.2
23	15	12	12	11	10	9.8	10	9.3	49	42	48	6.0
24	15	12	11	11	9.5	9.8	12	9.0	73	40	42	5.6
25	15	12	11	10	9.5	9.8	12	8.7	83	39	38	5.6
26	14	12	10	10	9.5	9.3	12	8.7	72	39	34	6.0
27	14	9.8	9.8	9.3	9.5	9.5	13	8.7	71	37	28	6.2
28	14	12	9.8	9.3	9.5	9.5	13	11	69	37	25	5.8
29	14	12	9.8	9.5	---	8.7	14	14	62	38	26	5.1
30	14	12	9.8	9.5	---	8.7	12	18	52	40	27	5.3
31	14	---	9.8	9.5	---	9.8	---	24	---	40	26	---
TOTAL	541	399.8	364.0	321.7	268.2	291.7	334.7	277.2	1216	1290	1241	455.9
MEAN	17.5	13.3	11.7	10.4	9.58	9.41	11.2	8.94	40.5	41.6	40.0	15.2
MAX	28	15	14	11	12	10	14	24	83	58	82	27
MIN	14	9.8	9.8	9.3	9.0	8.5	9.3	6.5	21	33	25	5.1
AC-FT	1070	793	722	638	532	579	664	550	2410	2560	2460	904
CAL YR 1976	TOTAL	8166.9	MEAN	22.3	MAX	165	MIN	7.9	AC-FT	16200		
WTR YR 1977	TOTAL	7001.2	MEAN	19.2	MAX	83	MIN	5.1	AC-FT	13890		

## 10276000 BIG PINE CREEK NEAR BIG PINE, CA--Continued

COMBINED DISCHARGE, IN CUBIC FEET PER SECOND, OF BIG PINE CREEK AND UPPER AND  
LOWER GIROUX DITCHES, NEAR BIG PINE, CA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

## MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36	17	16	12	12	11	11	17	43	71	56	41
2	34	17	17	14	12	12	11	16	48	70	56	40
3	32	17	17	14	12	12	11	15	48	67	54	40
4	30	17	16	13	12	11	11	12	50	56	54	39
5	29	17	16	13	12	11	12	15	50	51	56	38
6	27	17	16	13	12	12	13	14	46	46	54	38
7	27	18	16	13	12	12	13	14	50	46	51	36
8	27	18	16	13	12	12	13	14	55	46	45	36
9	26	18	16	13	12	12	13	15	53	46	46	36
10	26	18	16	13	12	11	13	16	38	46	46	36
11	24	18	16	12	12	12	13	14	34	46	47	35
12	24	18	16	12	12	12	13	14	38	50	47	34
13	23	17	16	12	12	11	12	14	39	53	48	34
14	23	17	14	12	12	11	13	14	38	55	47	31
15	22	16	14	12	12	10	13	15	41	57	46	28
16	21	16	14	12	12	11	15	15	48	59	43	26
17	21	16	13	12	12	11	16	14	49	57	60	23
18	21	16	14	12	12	11	16	14	40	59	96	23
19	18	16	14	14	12	11	15	14	44	69	70	21
20	18	16	14	14	12	11	14	14	33	68	92	18
21	18	16	14	14	15	11	14	16	35	59	71	18
22	18	16	16	14	14	11	14	18	47	56	68	17
23	18	15	15	14	13	11	14	17	62	56	62	17
24	18	15	14	14	12	11	16	16	86	54	56	17
25	18	15	14	13	12	11	16	16	96	53	52	17
26	17	15	13	13	12	11	16	16	85	53	48	17
27	17	12	12	12	12	11	19	16	84	51	42	17
28	17	15	12	12	12	11	20	18	82	51	39	17
29	17	15	12	12	---	10	21	22	75	52	40	16
30	17	15	12	12	---	10	20	26	65	54	41	16
31	17	---	12	12	---	11	---	34	---	54	40	---
TOTAL	701	489	453	397	342	346	431	505	1602	1711	1673	822
MEAN	22.6	16.3	14.6	12.8	12.2	11.2	14.4	16.3	53.4	55.2	54.0	27.4
MAX	36	18	17	14	15	12	21	34	96	71	96	41
MIN	17	12	12	12	12	10	11	12	33	46	39	16
AC-FT	1390	970	899	787	678	686	855	1000	3180	3390	3320	1630
CAL YR 1976	TOTAL	10146	MEAN 27.7	MAX 173	MIN 11	AC-FT 20120						
WTR YR 1977	TOTAL	9472	MEAN 26.0	MAX 96	MIN 10	AC-FT 18790						

## OWENS LAKE BASIN

10277400 OWENS RIVER BELOW TINEMAHA RESERVOIR, NEAR BIG PINE, CA  
(National stream-quality accounting network station)

LOCATION.--Lat 37°03'15", long 118°13'33", in SW¼NE¼ sec.26, T.10 S., R.34 E., Inyo County, about 100 ft (30 m) west of center of dam, 8.4 mi (13.5 km) southeast of Big Pine.

DRAINAGE AREA.--1,964 mi<sup>2</sup> (5,087 km<sup>2</sup>).

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1974 to current year. Since November 1951 in files of city of Los Angeles, Department of Water and Power as Owens River at Tinemaha Dam.

GAGE.--Water-stage recorder and Parshall flume. Altitude of gage is 3,860 ft (1,177 m), from topographic map.

REMARKS.--Records poor. Flow regulated since 1941 by Lake Crowley, capacity, 183,500 acre-ft (226 km<sup>3</sup>) and several small reservoirs, combined capacity, 41,400 acre-ft (51.0 km<sup>3</sup>). Diversions from both main stream and tributaries. Water imported from Mono Basin since 1941 for diversion to Los Angeles Aqueduct which diverts 4 mi (6 km) downstream.

COOPERATION.--Records were furnished by city of Los Angeles, Department of Water and Power.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 795 ft<sup>3</sup>/s (22.5 m<sup>3</sup>/s) Sept. 22, 1976; minimum daily, 5.0 ft<sup>3</sup>/s (0.14 m<sup>3</sup>/s) Sept. 15, 16, 25-30, 1976.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.0	597	495	303	256	252	398	152	208	256	248	199
2	5.0	597	495	301	256	252	401	152	199	254	250	197
3	5.0	597	495	301	256	252	398	152	199	252	250	204
4	5.0	600	498	301	256	250	396	154	199	250	248	209
5	5.0	423	505	301	256	250	396	155	199	250	248	211
6	5.0	303	505	301	256	250	398	187	201	250	248	215
7	5.0	299	505	168	256	252	10	222	201	248	248	209
8	5.0	301	505	5.0	256	252	242	220	199	248	248	209
9	5.0	293	505	5.0	256	252	99	224	199	246	273	202
10	5.0	295	505	5.0	256	250	101	226	224	246	301	202
11	5.0	299	505	5.0	256	250	102	226	246	246	297	206
12	5.0	301	505	5.0	256	250	113	227	246	246	295	201
13	5.0	303	505	5.0	254	250	129	227	244	248	295	192
14	5.0	305	505	5.0	254	250	132	227	256	250	297	194
15	423	309	505	5.0	254	252	141	227	254	250	299	195
16	755	309	505	170	254	335	154	227	252	248	297	195
17	752	299	505	490	254	396	154	227	254	248	291	192
18	749	293	505	695	254	396	154	224	254	246	285	182
19	749	295	505	690	254	394	154	222	254	248	293	180
20	743	297	505	690	254	394	154	220	254	252	293	180
21	743	299	503	692	254	398	154	226	254	252	303	178
22	743	301	500	483	252	398	154	227	256	252	316	180
23	737	301	500	299	252	401	154	226	254	250	318	177
24	732	423	500	301	252	403	154	224	256	250	309	190
25	701	503	500	301	252	403	154	224	256	252	301	208
26	624	500	500	273	252	401	154	224	254	252	233	211
27	592	498	500	250	252	401	154	224	254	252	190	213
28	566	498	500	252	252	401	152	224	256	250	175	208
29	582	498	500	254	---	401	152	224	256	250	175	199
30	600	495	500	254	---	398	152	222	256	248	182	202
31	603	---	380	256	---	398	---	222	---	248	190	---
TOTAL	11464.0	11631	15446	8366.0	7122	10082	5760	6565	7094	7738	8196	5940
MEAN	370	388	498	270	254	325	192	212	236	250	264	198
MAX	755	600	505	695	256	403	401	227	256	256	318	215
MIN	5.0	293	380	5.0	252	250	10	152	199	246	175	177
AC-FT	22740	23070	30640	16590	14130	20000	11420	13020	14070	15350	16260	11780
CAL YR 1976	TOTAL	180725.0	MEAN	494	MAX	795	MIN	5.0	AC-FT	358500		
WTR YR 1977	TOTAL	105404.0	MEAN	289	MAX	755	MIN	5.0	AC-FT	209100		



## 10277400 OWENS RIVER BELOW TINEMAH RESERVOIR, NEAR BIG PINE, CA--Continued

## WATER-QUALITY RECORDS

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

CHEMICAL ANALYSES: Water year 1975 to current year.

SEDIMENT RECORDS: Water year 1975 to current year (partial-record station).

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: May 1975 to current year.

WATER TEMPERATURE: February 1975 to current year.

INSTRUMENTATION.--Specific conductance recorder since May 1975. Temperature recorder since February 1975.

REMARKS.--Periods of missing temperature and conductivity data due to equipment malfunction or from reduction of flow past probe.

COOPERATION.--Pesticide samples were collected by U.S. Geological Survey and analyzed by Environmental Protection Agency.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 422 micromhos May 6, 1977; minimum, 193 micromhos June 11, 1975.

WATER TEMPERATURES: Maximum, 26.0°C Aug. 19, 1977; minimum, 1.5°C Jan. 2, Dec. 23-27, 1976.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 422 micromhos May 6; minimum, 280 micromhos Aug. 18.

WATER TEMPERATURES: Maximum, 26.0°C Aug. 19; minimum, 1.5°C Dec. 23-27.

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	PH (UNITS)	TUR- BID- ITY (JTU)	FECAL COLI- FORM .7UM-MF (COL./ 100 ML)	FECAL STREP- TOCOCCI KF AGAR (COL. PER 100 ML)	HARD- NESS (CA+MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)
OCT 20...	1600	746	8.0	10	B0	B0	81	0	25	4.5	33
NOV 16...	1530	309	8.0	10	B2	B7	75	0	23	4.2	34
DEC 15...	1400	505	7.9	6	B0	B1	74	0	23	4.1	36
JAN 25...	1400	303	8.1	6	B1	B1	87	0	27	4.7	37
FEB 08...	1500	254	8.0	8	B0	B1	89	0	27	5.3	37
MAR 15...	1545	254	7.7	15	B5	21	88	0	27	5.0	36
APR 12...	1500	131	8.1	20	B6	B9	82	0	25	4.8	40
MAY 18...	1515	224	8.0	6	B1	B11	92	0	28	5.3	41
JUN 15...	1515	256	7.5	20	B5	35	96	0	30	5.1	40
JUL 20...	1345	256	7.2	20	B10	69	79	0	24	4.7	40
AUG 17...	1630	301	7.3	20	B12	--	78	0	23	5.0	40
SEP 21...	1530	177	7.7	30	B3	82	86	0	25	5.7	39

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

10277400 OWENS RIVER BELOW TINEMAHA RESERVOIR, NEAR BIG PINE, CA--Continued

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	ALKA- LINITY AS CACO3 (MG/L)	CARBON DIOXIDE (CO2) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SiO2) (MG/L)
OCT 20...	45	1.6	4.2	134	0	110	2.1	29	16	.6	21
NOV 16...	48	1.7	4.2	141	0	116	2.3	24	15	.6	15
DEC 15...	50	1.8	4.1	129	0	106	2.6	26	14	.7	21
JAN 25...	47	1.7	4.2	139	0	114	1.8	37	14	.7	26
FEB 08...	46	1.7	4.3	136	0	112	2.2	39	19	.6	28
MAR 15...	46	1.7	4.1	139	0	114	4.4	38	17	.7	30
APR 12...	50	1.9	4.4	140	0	110	1.8	26	19	.8	25
MAY 18...	48	1.9	5.0	160	0	130	2.6	32	18	.9	26
JUN 15...	46	1.8	4.9	150	0	120	7.6	34	15	.7	25
JUL 20...	51	2.0	4.7	150	0	120	15	23	16	.7	27
AUG 17...	51	2.0	4.7	150	0	120	12	20	16	.8	28
SEP 21...	48	1.8	4.8	160	0	130	5.1	23	19	.8	35

DATE	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DIS- SOLVED SOLIDS (TONS PER AC-FT)	DIS- SOLVED SOLIDS (TONS PER DAY)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (NO3) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	TOTAL PHYTO- PLANK- TON (CELLS PER ML)
OCT 20...	194	199	.26	391	.03	.23	.26	1.2	.05	2500
NOV 16...	192	190	.26	160	.05	.20	.25	1.1	.05	4100
DEC 15...	198	193	.27	270	.23	.34	.57	2.5	.05	2100
JAN 25...	219	219	.30	179	.12	.45	.57	2.5	.04	24000
FEB 08...	220	227	.30	151	.09	.51	.60	2.7	.05	8900
MAR 15...	228	226	.31	156	.03	.56	.59	2.6	.44	--
APR 12...	220	214	.30	77.8	.07	.35	.42	1.9	.09	--
MAY 18...	240	235	.33	145	.05	.55	.60	2.7	.07	15000
JUN 15...	212	229	.29	147	.04	.72	.76	3.4	.12	4600
JUL 20...	213	214	.29	147	.09	.56	.65	2.9	.15	3100
AUG 17...	213	211	.29	173	.23	.82	1.1	4.6	.20	3500
SEP 21...	219	231	.30	105	.23	--	--	--	.25	2600

10277400 OWENS RIVER BELOW TINEMAHA RESERVOIR, NEAR BIG PINE, CA--Continued

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	TOTAL ARSENIC (AS) (UG/L)	SUS- PENDE D ARSENIC (AS) (UG/L)	DIS- SOLVED ARSENIC (AS) (UG/L)	TOTAL CAD- MIUM (CD) (UG/L)	SUS- PENDE D CAD- MIUM (CD) (UG/L)	DIS- SOLVED CAD- MIUM (CD) (UG/L)	TOTAL CHRO- MIUM (CR) (UG/L)	SUS- PENDE D CHRO- MIUM (CR) (UG/L)	DIS- SOLVED CHRO- MIUM (CR) (UG/L)	TOTAL COBALT (CO) (UG/L)	SUS- PENDE D COBALT (CO) (UG/L)
OCT 20...	1600	22	1	21	<10	<9	1	0	0	0	<50	<48
JAN 25...	1400	22	0	22	<10	<10	0	0	0	0	<50	<50
APR 12...	1500	--	--	9	<10	<8	2	10	10	0	<50	<50
JUL 20...	1345	40	0	40	<10	<8	2	0	0	0	<50	<50

DATE	DIS- SOLVED MAN- GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	SUS- PENDE D MERCURY (HG) (UG/L)	DIS- SOLVED MERCURY (HG) (UG/L)	TOTAL SELE- NIUM (SE) (UG/L)	SUS- PENDE D SELE- NIUM (SE) (UG/L)	DIS- SOLVED SELE- NIUM (SE) (UG/L)	TOTAL ZINC (ZN) (UG/L)	SUS- PENDE D ZINC (ZN) (UG/L)	DIS- SOLVED ZINC (ZN) (UG/L)	TOTAL ORGANIC CARBON (C) (MG/L)
OCT 20...	10	--	--	.0	0	0	0	70	40	30	2.0
JAN 25...	10	.0	.0	.0	0	0	0	20	0	20	6.0
APR 12...	10	.6	.6	.0	1	1	0	60	60	0	6.6
JUL 20...	0	.0	.0	.0	0	0	0	30	30	0	6.1

DATE	DIS- SOLVED COBALT (CO) (UG/L)	TOTAL COPPER (CU) (UG/L)	SUS- PENDE D COPPER (CU) (UG/L)	DIS- SOLVED COPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	SUS- PENDE D LEAD (PB) (UG/L)	DIS- SOLVED LEAD (PB) (UG/L)	TOTAL MAN- GANESE (MN) (UG/L)	SUS- PENDE D MAN- GANESE (MN) (UG/L)
OCT 20...	2	<10	<8	2	650	50	<100	<94	6	30	20
JAN 25...	0	<10	<6	4	360	20	<100	<99	1	30	20
APR 12...	0	30	26	4	1400	20	100	94	6	90	80
JUL 20...	0	30	24	6	1600	70	<100	<91	9	100	100

DATE	TIME	TOTAL ALDRIN (UG/L)	ALDRIN IN BOTTOM MA- TERIAL (UG/KG)	TOTAL ATRA- ZINE (UG/L)	ATRA- ZINE IN BOTTOM MATERI- AL (UG/ KG DRY SOLIDS)	TOTAL CHLOR- DANE (UG/L)	CHLOR- DANE IN BOTTOM MA- TERIAL (UG/KG)	TOTAL DDD (UG/L)	DDD IN BOTTOM MA- TERIAL (UG/KG)	TOTAL ODE (UG/L)
NOV 16...	1530	ND	--	ND	--	ND	--	ND	--	ND
MAR 15...	1540	ND	--	ND	--	ND	--	ND	--	ND
MAY 18...	1515	ND	ND	ND	ND	ND	ND	ND	ND	ND
AUG 17...	1630	ND	--	ND	--	ND	--	ND	--	ND

ND Material specifically analyzed for but not detected.

10277400 OWENS RIVER BELOW TINEMAHUA RESERVOIR, NEAR BIG PINE, CA--Continued

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	DDE IN BOTTOM MA- TERIAL (UG/KG)	TOTAL DDT (UG/L)	DDT IN BOTTOM MA- TERIAL (UG/KG)	TOTAL DI- AZINON (UG/L)	DI- AZINON IN BOTTOM MA- TERIAL (UG/KG)	TOTAL DI- ELDRIN (UG/L)	DI- ELDRIN IN BOTTOM MA- TERIAL (UG/KG)	TOTAL ENDRIN (UG/L)	ENDRIN IN BOTTOM MA- TERIAL (UG/KG)	TOTAL ETHION (UG/L)
NOV 16...	--	ND	--	ND	--	ND	--	ND	--	ND
MAR 15...	--	ND	--	ND	--	ND	--	ND	--	ND
MAY 18...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AUG 17...	--	ND	--	ND	--	ND	--	ND	--	ND

DATE	ETHION IN BOTTOM MA- TERIAL (UG/KG)	TOTAL HEPTA- CHLOR (UG/L)	HEPTA- CHLOR IN BOTTOM MA- TERIAL (UG/KG)	TOTAL HEPTA- CHLOR EPOXIDE (UG/L)	HEPTA- CHLOR EPOXIDE IN BOT- TOM MA- TERIAL (UG/KG)	TOTAL LINDANE (UG/L)	LINDANE IN BOTTOM MA- TERIAL (UG/KG)	TOTAL MALA- THION (UG/L)	MALA- THION IN BOTTOM MA- TERIAL (UG/KG)	TOTAL METH- OXY- CHLOR (UG/L)
NOV 16...	--	ND	--	ND	--	ND	--	ND	--	ND
MAR 15...	--	ND	--	ND	--	ND	--	ND	--	ND
MAY 18...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AUG 17...	--	ND	--	ND	--	ND	--	ND	--	ND

DATE	METHOX- YCHLOR IN BOT- TOM MA- TERIAL (UG/KG)	TOTAL METHYL PARA- THION (UG/L)	METHYL PARA- THION IN BOT- TOM MA- TERIAL (UG/KG)	TOTAL METHYL THI- THION (UG/L)	METHYL TRI- THION IN BOT- TOM MA- TERIAL (UG/KG)	TOTAL PARA- THION (UG/L)	PARA- THION IN BOTTOM MA- TERIAL (UG/KG)	SIMA- ZINE TOTAL COUL- SON COND. (UG/L)	SIMA- ZINE IN BOTTOM MATERI- AL (UG/ KG DRY SOLIDS)	TOTAL TOX- APHENE (UG/L)
NOV 16...	--	ND	--	ND	--	ND	--	ND	--	ND
MAR 15...	--	ND	--	ND	--	ND	--	ND	--	ND
MAY 18...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AUG 17...	--	ND	--	ND	--	ND	--	ND	--	ND

DATE	TOX- APHENE IN BOTTOM MA- TERIAL (UG/KG)	TOTAL TRI- THION (UG/L)	TRI- THION IN BOTTOM MA- TERIAL (UG/KG)	TOTAL 2,4-D (UG/L)	2,4-D IN BOTTOM MA- TERIAL (UG/KG)	TOTAL 2,4,5-T (UG/L)	2,4,5-T IN BOTTOM MA- TERIAL (UG/KG)	TOTAL SILVEX (UG/L)	SILVEX IN BOTTOM MA- TERIAL (UG/KG)
NOV 16...	--	ND	--	ND	--	ND	--	ND	--
MAR 15...	--	ND	--	ND	--	ND	--	ND	--
MAY 18...	ND	ND	ND	ND	ND	ND	ND	ND	ND
AUG 17...	--	ND	--	ND	--	ND	--	ND	--

ND Material specifically analyzed for but not detected.

10277400 OWENS RIVER BELOW TINEMAHA RESERVOIR, NEAR BIG PINE, CA--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

## PHYTOPLANKTON

DATE TIME	NOV 16,76 1530	DEC 15,76 1400	JAN 25,77 1400	FEB 8,77 1500	MAY 18,77 1515	
TOTAL CELLS/ML	4100	2100	24000	8900	15000	
DIVERSITY: DIVISION	0.6	0.6	0.2	0.0	0.3	
..CLASS	0.6	0.6	0.2	0.0	0.8	
...ORDER	1.0	1.1	0.6	0.5	1.6	
...FAMILY	1.2	1.4	0.7	0.7	1.9	
...GENUS	1.3	1.7	0.7	0.7	2.4	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)						
..CHLOROPHYCEAE						
...CHLOROCOCCALES						
...CHARACIACEAE	--	-	--	-	310	2
...SCHROEDERIA	--	-	--	-	--	-
...MICRACTINIACEAE	--	-	--	-	--	-
...MICRACTINIUM	--	-	970	4	--	-
...OOCYSTACEAE	--	-	--	-	--	-
...ANKISTRODESMUS	--	-	82	4	--	-
...CHODATELLA	--	-	--	-	--	-
...DICTYOSPHAERIUM	27	1	--	-	--	-
...OOCYSTIS	--	-	--	-	--	-
...QUADRIGULA	--	-	--	-	--	-
...TETRAEDRON	--	-	--	-	--	-
...SCENEDESMACEAE	--	-	--	-	--	-
...SCENEDESMUS	--	-	--	-	--	-
...TETRASPORALES	--	-	--	-	--	-
...COCCOMYXACEAE	--	-	--	-	--	-
...ELAKATOTHRIX	--	-	--	-	--	-
...PALMELLACEAE	--	-	--	-	--	-
...GLOEOCYSTIS	--	-	--	-	--	-
...SPHAEROCYSTIS	--	-	--	-	--	-
...VOLVOCALES	--	-	--	-	--	-
...VOLVOCAEAE	--	-	--	-	--	-
...PANDORINA	--	-	--	-	--	-
CHRYSTOPHYTA						
..BACILLARIOPHYCEAE						
...CENTRALES						
...COSCINODISCACEAE	--	-	1500#	72	7900#	88
...CYCLOTETRA	--	-	21000#	89	2500#	16
...MELOSIRA	* 0	--	--	-	1600	10
...STEPHANODISCUS	3200#	78	82	4	160	1
...PENNALES	--	-	--	-	--	-
...ACHNANTHACEAE	--	-	--	-	--	-
...ACHNANTHES	--	-	--	-	--	-
...COCCONEIS	27	1	--	-	--	-
...RHOICOSPHEA	* 0	21	1	--	86	1
...CYMBELLACEAE	--	-	--	-	--	-
...AMPHORA	--	-	--	-	--	-
...CYMBELLA	53	1	--	-	--	-
...EPITHEMIA	* 0	--	-	--	--	-
...RHOPALODIA	* 0	--	-	--	--	-
...DIATOMACEAE	* 0	21	1	--	260	2
...DIATOMA	--	-	--	-	--	-
...EUNOTIACEAE	--	-	41	2	--	-
...EUNOTIA	--	-	--	-	--	-
...FRAGILARIACEAE	--	-	--	-	--	-
...ASTERIONELLA	--	-	--	-	7400#	48
...FRAGILARIA	80	2	82	4	570	4
...SYNEDRA	--	-	--	-	--	-
...GOMPHONEMACEAE	27	1	21	1	170	2
...GOMPHONEMA	--	-	--	-	--	-
...NAVICULACEAE	--	-	--	-	--	-
...GYROSIGMA	--	-	--	-	--	-
...NAVICULA	53	1	82	4	260	3
...PINNULARIA	--	-	21	1	--	-
...NITZSCHACEAE	--	-	--	-	--	-
...DENTICULA	27	1	--	-	--	-
...NITZSCHIA	80	2	--	-	190	1
...SURIRELLACEAE	27	1	--	-	--	-
...SURIRELLA	--	-	--	-	--	-
..CHRYSTOPHYCEAE						
...CHRYSSOMONADALES	--	-	--	-	--	-
...OCHROMONADACEAE	--	-	--	-	--	-
...DINORRYON	--	-	--	-	2100	14

See footnotes at end of table.

10277400 OWENS RIVER BELOW TINEMAHA RESERVOIR, NEAR BIG PINE, CA--Continued

## QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

## PHYTOPLANKTON

DATE TIME	NOV 16,76 1530		DEC 15,76 1400		JAN 25,77 1400		FEB 8,77 1500		MAY 18,77 1515	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CYANOPHYTA (BLUE-GREEN ALGAE)										
..CYANOPHYCEAE										
...CHROCCOCCALES										
...CHROCCOCCAEAE										
....ANACYSTIS	--	-	140	7	*	0	--	-	160	1
..HORMOGONALES										
...NOSTOCACEAE										
....ANABAENA	--	-	--	-	--	-	--	-	*	0
...OSCILLATORIACEAE										
....LYNGBYA	480	12	--	-	--	-	--	-	--	-
EUGLENOPHYTA (EUGLENIDS)										
..CRYPTOPHYCEAE										
..CRYPTOMONIDALES										
...CRYPTOMONODACEAE										
....CRYPTOMONAS	--	-	--	-	--	-	--	-	--	-
..EUGLENOPHYCEAE										
..EUGLENALES										
...EUGLENACEAE										
....EUGLENA	--	-	--	-	--	-	--	-	--	-
....TRACHELOMONAS	--	-	--	-	--	-	--	-	--	-

DATE TIME	JUN 15,77 1515		JUL 20,77 1345		AUG 17,77 1630		SEP 21,77 1530	
TOTAL CELLS/ML	4600		3100		3500		2600	
DIVERSITY: DIVISION	0.9		1.5		1.4		0.1	
..CLASS	0.9		1.5		1.4		0.1	
...ORDER	1.4		2.1		1.8		0.4	
...FAMILY	1.7		2.8		2.4		3.0	
...GENUS	2.1		3.2		2.6		3.2	

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)								
..CHLOROPHYCEAE								
...CHLOROCOCCALES								
...CHARACIACEAE								
....SCHROEDERIA	--	-	*	0	--	-	--	-
...MICRACTINIACEAE								
....MICRACTINIUM	--	-	--	-	--	-	--	-
...OOCYSTACEAE								
....ANKISTRODESMUS	57	1	--	-	--	-	--	-
...CHODATELLA	--	-	--	-	--	-	--	-
...DICTYOSPHAERIUM	180	4	--	-	--	-	--	-
...OOCYSTIS	140	3	--	-	--	-	--	-
....QUADRIGULA	--	-	--	-	57	2	--	-
....TETRAEDRON	*	0	--	-	*	0	--	-
...SCENEDESMACEAE								
....SCENEDESMUS	300	6	--	-	69	2	--	-
..TETRASPORALES								
...COCCOMYXACEAE								
....ELAKATOTHRIX	--	-	--	-	23	1	--	-
...PALMELLACEAE								
....GLOEOCYSTIS	46	1	--	-	--	-	--	-
....SPHAEROCYSTIS	--	-	--	-	340	10	--	-
..VOLVOCALES								
...VOLVOCAEAE								
....PANDORINA	--	-	220	7	--	-	--	-

See footnotes at end of table.

10277400 OWENS RIVER BELOW TINEMAHA RESERVOIR, NEAR BIG PINE, CA--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

## PHYTOPLANKTON

DATE TIME	JUN 15,77 1515		JUL 20,77 1345		AUG 17,77 1630		SEP 21,77 1530	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHRYSOPHYTA								
..BACILLARIOPHYCEAE								
...CENTRALES								
...COSCINODISCACEAE								
...CYCLOTELLA	57	1	64	2	69	2	120	5
....MELOSIRA	3100#	67	440	14	130	4	--	-
....STEPHANODISCUS	130	3	90	3	46	1	50	2
...PENNALES								
...ACHNANTHACEAE								
....ACHNANTHES	--	-	--	-	46	1	--	-
....COCONEIS	--	-	--	-	110	3	370	15
....RHOICOSPHEA	--	-	120	4	--	-	--	-
...CYMBELLACEAE								
....AMPHORA	--	-	--	-	--	-	--	-
...CYMBELLA	*	0	51	2	--	-	--	-
....EPITHEMIA	--	-	90	3	140	4	270	11
....RHOPALODIA	--	-	26	1	--	-	25	1
...DIATOMACEAE								
....DIATOMA	34	1	220	7	80	2	250	10
...EUNOTIACEAE								
....EUNOTIA	--	-	--	-	--	-	--	-
...FRAGILARIACEAE								
....ASTERIONELLA	--	-	--	-	--	-	--	-
...FRAGILARIA	*	0	--	-	--	-	74	3
...SYNEDRA	--	-	--	-	--	-	50	2
...GOMPHONEMACEAE								
....GOMPHONEMA	--	-	51	2	91	3	420#	17
...NAVICULACEAE								
....GYROSIGMA	--	-	*	0	--	-	--	-
....NAVICULA	150	3	130	4	250	7	550#	21
....PINNULARIA	*	0	*	0	--	-	--	-
...NITZSCHACEAE								
....DENTICULA	*	0	--	-	--	-	--	-
....NITZSCHIA	180	4	64	2	140	4	300	12
...SURIPELLACEAE								
....SURIPELLA	*	0	100	3	--	-	50	2
CHRYSOPHYCEAE								
..CHRYSOMONADALES								
...OCHROMONADACEAE								
....DINORRYON	--	-	--	-	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)								
..CYANOPHYCEAE								
...CHROCOCCOCEAE								
....CHROCOCCOCEAE								
....ANACYSTIS	140	3	1300#	41	--	-	--	-
...HORMOGONALES								
...NOSTOCACEAE								
....ANABAENA	--	-	51	2	1900#	55	--	-
...OSCILLATORIACEAE								
....LYNGBYA	--	-	--	-	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)								
..CRYPTOPHYCEAE								
...CRYPTOMONADALES								
....CRYPTOMONODACEAE								
....CRYPTOMONAS	46	1	--	-	--	-	--	-
...EUGLENOPHYCEAE								
....EUGLENALES								
...EUGLENACEAE								
....EUGLENA	--	-	77	2	--	-	--	-
....TRACHELOMONAS	--	-	38	1	--	-	25	1

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%

\* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

## OWENS LAKE BASIN

10277400 OWENS RIVER BELOW TINEMAHA RESERVOIR, NEAR BIG PINE, CA--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	---	---	---	313	309	311	323	318	321	333	330	332
2	---	---	---	312	308	310	324	321	322	342	330	335
3	---	---	---	311	307	310	323	319	322	333	330	331
4	---	---	---	312	308	310	323	320	322	332	329	331
5	---	---	---	312	305	309	324	318	321	332	329	331
6	---	---	---	311	305	309	325	322	323	332	328	330
7	---	---	---	315	305	310	325	322	324	---	---	---
8	---	---	---	313	308	311	325	322	324	---	---	---
9	---	---	---	313	309	311	324	318	322	---	---	---
10	---	---	---	314	311	313	326	322	324	---	---	---
11	---	---	---	319	312	315	327	323	325	---	---	---
12	---	---	---	319	314	317	326	323	325	---	---	---
13	---	---	---	319	316	318	326	324	325	---	---	---
14	---	---	---	319	316	318	327	323	325	---	---	---
15	312	307	310	317	312	315	327	321	325	---	---	---
16	312	307	310	318	311	315	327	324	326	---	---	---
17	313	309	311	318	315	317	326	323	325	340	335	338
18	314	311	313	318	313	317	328	326	327	343	341	342
19	314	309	312	318	314	317	327	323	326	344	341	343
20	---	---	---	318	316	317	328	323	326	343	341	342
21	312	304	309	319	315	317	329	324	327	345	339	342
22	313	300	305	318	314	317	330	326	328	347	342	346
23	313	302	307	319	316	318	330	328	329	359	342	350
24	309	302	306	321	318	319	329	324	328	345	342	343
25	308	299	305	322	318	320	331	327	330	362	346	353
26	303	300	302	323	316	320	331	328	330	351	344	347
27	305	301	303	324	321	322	332	328	331	359	345	351
28	308	303	305	324	321	322	334	330	332	349	344	347
29	309	306	308	323	319	322	334	329	332	352	345	349
30	311	307	309	324	321	323	334	329	332	359	351	355
31	311	308	309	---	---	---	333	328	331	356	350	353
MONTH	---	---	---	324	305	316	334	318	326	---	---	---
DAY	FEBRUARY			MARCH			APRIL			MAY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	353	347	351	359	346	351	336	330	333	379	327	352
2	357	348	353	361	350	356	336	330	333	406	348	359
3	356	354	355	360	352	356	336	333	334	392	330	358
4	356	351	354	360	351	355	338	335	336	413	332	364
5	357	354	356	357	354	356	338	331	335	404	343	370
6	356	354	355	358	347	354	334	328	332	422	348	378
7	358	355	356	354	347	351	336	329	333	357	353	355
8	357	351	355	361	347	355	---	---	---	359	353	356
9	361	353	357	355	349	353	---	---	---	355	351	354
10	358	353	356	355	352	354	---	---	---	357	353	355
11	361	352	357	359	353	356	---	---	---	357	351	355
12	361	357	359	360	350	355	---	---	---	360	354	358
13	362	353	358	361	354	358	---	---	---	359	357	358
14	361	355	357	362	351	355	---	---	---	360	356	358
15	364	353	356	353	339	348	---	---	---	360	357	358
16	365	355	358	349	340	344	391	312	343	363	357	360
17	357	351	355	351	347	349	374	307	338	366	363	364
18	357	353	355	349	343	346	393	296	358	367	363	365
19	356	352	354	347	343	345	405	332	362	366	363	365
20	356	351	354	342	336	338	417	325	361	366	363	365
21	355	351	352	344	336	339	401	312	350	367	362	365
22	355	351	354	342	334	339	388	309	346	368	363	365
23	355	347	350	340	335	337	410	313	356	369	358	364
24	356	347	352	340	337	339	401	298	346	371	366	368
25	347	344	346	340	335	339	380	305	341	372	361	367
26	356	346	352	341	334	338	386	312	346	371	355	367
27	356	347	352	340	335	338	388	318	349	371	360	367
28	355	351	353	344	337	340	391	322	351	373	364	368
29	---	---	---	343	339	341	384	313	345	371	363	368
30	---	---	---	343	339	341	386	329	357	371	359	368
31	---	---	---	342	335	339	---	---	---	371	354	366
MONTH	365	344	354	362	334	347	---	---	---	422	327	363



10277400 OWENS RIVER BELOW TINEMAHA RESERVOIR, NEAR BIG PINE, CA--Continued

## SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	JUNE			JULY			AUGUST			SEPTEMBER		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	371	350	366	317	312	316	345	339	342	406	338	356
2	371	346	363	320	306	315	347	337	344	407	324	348
3	368	336	356	322	308	319	347	334	341	366	322	331
4	363	339	354	327	320	324	352	334	345	338	327	333
5	360	328	349	332	322	328	349	328	340	337	325	332
6	353	327	342	337	328	333	335	325	331	336	323	331
7	356	321	335	340	335	337	341	330	335	337	324	332
8	350	318	340	339	335	338	340	328	336	340	318	333
9	350	328	341	341	329	336	347	333	340	337	318	330
10	348	300	332	340	336	338	348	334	343	334	319	330
11	342	313	329	348	337	343	345	332	339	333	322	329
12	343	334	338	353	348	351	342	331	337	333	326	330
13	353	342	348	354	349	351	342	333	338	335	329	333
14	353	348	350	359	351	354	344	333	338	341	332	336
15	353	341	348	368	354	361	348	333	341	344	336	340
16	352	326	345	358	345	353	344	331	338	339	333	336
17	351	341	346	352	338	346	342	324	333	341	336	339
18	351	326	343	351	343	347	323	280	300	343	338	341
19	347	339	343	352	337	346	301	284	289	348	340	344
20	348	335	342	350	327	341	312	284	299	345	342	344
21	343	338	340	341	318	331	328	303	323	355	345	348
22	345	333	340	337	321	331	333	324	329	351	341	347
23	341	312	332	338	314	333	335	315	327	348	341	346
24	342	318	335	337	327	331	326	309	321	355	344	350
25	339	329	336	337	331	335	329	311	321	347	342	344
26	336	315	329	341	334	338	330	313	321	346	340	342
27	328	309	321	343	336	341	325	318	321	350	344	347
28	324	317	320	344	335	341	329	321	325	352	343	348
29	320	315	318	347	332	340	331	318	326	353	345	349
30	321	299	315	342	333	338	338	316	327	357	343	349
31	---	---	---	344	335	340	409	331	364	---	---	---
MONTH	371	299	340	368	306	338	409	280	331	407	318	340
YEAR	422	280	338									

## TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	---	---	---	12.0	8.5	10.5	5.0	4.0	4.5	3.0	2.0	2.5
2	---	---	---	12.5	9.0	10.5	5.0	4.0	4.5	4.0	3.0	3.5
3	---	---	---	12.5	9.0	10.5	5.0	4.5	5.0	4.0	3.5	3.5
4	---	---	---	12.5	9.0	10.5	5.0	4.5	5.0	3.5	2.5	3.0
5	---	---	---	12.0	9.0	10.5	5.0	4.0	4.5	2.5	2.5	2.5
6	---	---	---	11.0	9.0	10.0	5.0	4.5	4.5	2.5	2.0	2.5
7	---	---	---	11.0	9.5	10.0	4.5	4.0	4.0	---	---	---
8	---	---	---	10.5	9.5	10.0	4.5	3.5	4.0	---	---	---
9	---	---	---	10.5	9.5	10.0	4.0	3.5	3.5	---	---	---
10	---	---	---	10.0	9.5	9.5	3.5	2.5	3.0	---	---	---
11	---	---	---	9.5	9.0	9.5	3.5	2.5	3.0	---	---	---
12	---	---	---	9.5	9.0	9.0	3.5	3.0	3.0	---	---	---
13	---	---	---	9.0	8.5	8.5	4.0	3.0	3.5	---	---	---
14	---	---	---	9.5	8.5	9.0	4.5	3.0	4.0	---	---	---
15	16.0	15.0	15.5	9.5	8.5	9.0	4.5	3.0	4.0	---	---	---
16	15.5	15.0	15.5	10.0	9.0	9.5	4.0	3.0	3.5	---	---	---
17	15.5	15.0	15.0	10.0	9.0	9.5	3.5	3.0	3.5	3.0	2.0	2.5
18	15.5	14.5	15.0	10.5	9.0	10.0	4.0	3.0	3.5	3.5	2.5	3.0
19	15.0	14.0	14.5	10.5	9.5	10.0	3.5	2.5	3.0	4.0	3.0	3.5
20	15.0	14.0	14.5	10.5	9.5	10.0	3.0	2.5	3.0	3.5	3.5	3.5
21	15.0	13.5	14.5	10.5	9.0	9.5	3.0	2.5	2.5	5.0	3.5	4.5
22	14.5	13.5	14.0	10.0	9.0	9.5	2.5	2.0	2.5	7.0	5.0	6.0
23	14.0	13.0	13.5	10.0	9.0	9.5	2.0	1.5	2.0	6.5	5.0	6.0
24	14.0	12.5	13.5	9.5	9.0	9.0	2.0	1.5	1.5	6.0	5.0	5.5
25	13.5	12.0	12.5	9.5	8.5	8.5	2.0	1.5	1.5	5.5	5.0	5.5
26	12.5	9.5	11.0	9.0	7.0	8.5	2.0	1.5	1.5	6.0	5.0	5.5
27	12.0	9.0	10.5	6.5	3.5	5.0	2.5	1.5	2.0	6.0	5.0	5.5
28	13.0	9.0	10.5	5.0	3.5	4.5	3.0	2.0	2.5	5.5	5.0	5.5
29	12.0	8.5	10.0	5.0	4.5	4.5	3.0	2.0	2.5	5.5	5.0	5.0
30	12.5	9.0	10.5	4.5	4.0	4.5	3.0	2.0	2.5	6.0	5.0	5.5
31	12.5	9.0	10.5	---	---	---	3.0	2.5	2.5	5.5	4.5	5.0
MONTH	---	---	---	12.5	3.5	9.0	5.0	1.5	3.0	---	---	---



10277400 OWENS RIVER BELOW TINEMAHA RESERVOIR, NEAR BIG PINE, CA--Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	TEMPER- ATURE (DEG C)	SUS- PENDE SEDIM- ENT (MG/L)	SUS- PENDE SEDIM- ENT DIS- CHARGE (T/DAY)	SUS. SED. SIEVE DIAM. % FINER THAN .062 MM
OCT						
20...	1545	746	16.5	13	26	86
NOV						
16...	1530	309	10.0	14	12	84
DEC						
15...	1400	505	4.0	9	12	65
JAN						
25...	1400	303	5.5	13	11	90
FEB						
08...	1500	254	7.0	10	6.9	89
MAR						
15...	1530	254	8.0	57	39	63
APR						
12...	1500	131	14.5	46	16	79
MAY						
18...	1515	224	13.5	11	6.7	77
JUN						
15...	1515	256	21.0	56	39	74
JUL						
20...	1345	256	24.0	98	68	45
AUG						
17...	1630	301	21.5	54	44	66

## 10281800 INDEPENDENCE CREEK BELOW PINYON CREEK, NEAR INDEPENDENCE, CA

LOCATION.--Lat 36°46'43", long 118°15'49", in NE¼SE¼NW¼ sec.27, T.13 S., R.34 E., Inyo County, on right bank 0.2 mi (0.3 km) downstream from Pinyon Creek, and 4.0 mi (6.4 km) southwest of Independence.

DRAINAGE AREA.--18.1 mi<sup>2</sup> (46.9 km<sup>2</sup>).

PERIOD OF RECORD.--January 1923 to current year. Prior to October 1959 monthly discharge only, published in WSP 1734.

GAGE.--Water-stage recorder and Parshall flume (Cipolletti weir used during low flow). Altitude of gage is 5,300 ft (1,615 m), from topographic map. See WSP 1734 for history of changes prior to Dec. 13, 1936.

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

COOPERATION.--Records were furnished by city of Los Angeles, Department of Water and Power.

AVERAGE DISCHARGE.--54 years (water years 1924-77), 12.4 ft<sup>3</sup>/s (0.351 m<sup>3</sup>/s), 8,980 acre-ft/yr (11.1 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 169 ft<sup>3</sup>/s (4.79 m<sup>3</sup>/s) June 1, 1969, gage height, 4.45 ft (1.356 m); minimum daily, 0.70 ft<sup>3</sup>/s (0.020 m<sup>3</sup>/s) Jan. 25, 1926, Dec. 15, 1935.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 24 ft<sup>3</sup>/s (0.68 m<sup>3</sup>/s) June 9; minimum daily, 2.3 ft<sup>3</sup>/s (0.065 m<sup>3</sup>/s) Mar. 29 and 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	8.7	4.9	3.3	2.7	2.7	2.7	8.3	16	19	5.9	3.6
2	16	8.5	4.9	3.3	2.8	3.8	2.7	7.7	17	19	5.9	3.6
3	15	8.1	4.9	3.9	2.7	2.9	2.7	7.5	18	18	5.9	3.6
4	14	7.9	4.9	3.8	2.7	3.2	2.8	7.2	19	18	5.7	3.6
5	14	7.7	4.7	4.5	2.8	2.8	2.8	7.0	20	17	5.5	3.6
6	13	7.5	4.5	3.5	2.8	2.7	3.1	6.8	21	16	5.4	3.5
7	13	7.3	4.7	3.8	2.8	2.7	3.2	6.6	22	15	5.4	3.5
8	12	7.2	4.7	4.9	2.8	2.7	3.3	6.8	23	14	5.0	3.3
9	12	7.0	4.4	5.7	2.7	2.7	3.5	6.8	24	13	4.9	3.3
10	11	7.0	4.2	5.7	2.7	2.5	3.6	6.6	23	13	4.9	3.2
11	11	7.0	4.2	3.5	2.5	3.2	3.9	6.6	22	12	4.7	3.3
12	10	7.2	4.2	3.5	2.5	2.7	4.1	6.6	22	12	5.0	3.5
13	10	7.0	4.2	3.3	2.5	2.5	4.1	6.4	22	11	5.4	3.3
14	9.7	7.2	4.2	3.3	2.5	2.5	4.4	6.6	22	11	5.0	3.3
15	11	7.0	3.9	3.3	2.5	2.8	4.7	7.0	22	10	4.7	3.1
16	13	6.6	3.9	3.1	2.5	2.5	5.2	7.0	22	10	5.0	3.2
17	13	6.4	3.9	3.2	2.5	2.5	5.7	6.6	21	9.7	6.8	3.3
18	13	6.4	4.1	3.2	2.5	2.5	6.2	6.4	21	9.3	6.6	3.3
19	12	6.2	3.9	3.2	2.5	2.5	6.4	6.2	21	8.9	6.2	3.3
20	12	6.2	3.6	3.2	2.5	2.7	6.4	6.2	21	8.1	5.9	3.3
21	11	6.4	4.2	3.3	3.5	2.7	6.4	6.6	20	8.5	5.7	3.3
22	11	6.6	4.1	3.2	3.5	2.7	6.4	7.7	21	8.3	5.5	3.1
23	11	6.6	2.7	2.8	3.3	2.5	6.4	8.5	22	7.9	5.0	2.9
24	11	6.1	3.2	2.7	2.9	2.8	6.4	8.7	22	7.7	4.2	2.8
25	10	5.9	3.2	2.5	2.8	2.8	6.6	8.7	23	7.5	4.2	2.8
26	10	5.7	3.3	2.7	2.8	2.8	7.3	8.7	22	7.2	4.1	2.8
27	9.3	5.2	3.6	2.7	2.8	2.7	7.7	8.9	21	6.8	4.1	2.8
28	9.3	6.1	3.6	2.7	2.9	2.4	8.1	9.5	21	6.6	4.1	2.8
29	9.3	6.1	3.5	2.7	---	2.3	8.7	10	20	6.6	4.1	2.5
30	9.1	5.2	3.5	2.7	---	2.3	8.7	12	19	6.2	3.9	2.7
31	8.9	---	3.3	2.7	---	2.5	---	14	---	6.1	3.9	---
TOTAL	362.6	204.0	125.1	105.9	77.0	83.6	154.2	240.2	630	343.4	158.6	96.2
MEAN	11.7	6.80	4.04	3.42	2.75	2.70	5.14	7.75	21.0	11.1	5.12	3.21
MAX	18	8.7	4.9	5.7	3.5	3.8	8.7	14	24	19	6.8	3.6
MIN	8.9	5.2	2.7	2.5	2.5	2.3	2.7	6.2	16	6.1	3.9	2.5
AC-FT	719	405	248	210	153	166	306	476	1250	681	315	191

CAL YR 1976 TOTAL 2732.6 MEAN 7.47 MAX 28 MIN 1.4 AC-FT 5420  
WTR YR 1977 TOTAL 2580.8 MEAN 7.07 MAX 24 MIN 2.3 AC-FT 5120

## 10285700 OWENS RIVER AT KEELER BRIDGE, NEAR LONE PINE, CA

LOCATION.--Lat 36°34'46", long 118°01'06", in NE¼NW¼NW¼ sec.1, T.16 S., R.36 E., Inyo County, on right bank under old timber bridge 0.5 mi (0.8 km) upstream from bridge on State Highway 190, and 3.4 mi (5.5 km) southeast of Lone Pine.

DRAINAGE AREA.--2,604 mi<sup>2</sup> (6,744 km<sup>2</sup>).

PERIOD OF RECORD.--January 1927 to current year. Prior to October 1959 monthly discharge only, published in WSP 1314 and 1734.

GAGE.--Water-stage recorder and Cipolletti weir. Altitude of gage is 3,600 ft (1,097 m), from topographic map. See WSP 1734 for history of changes prior to Feb. 14, 1935. Feb. 14, 1935, to Nov. 22, 1964, water-stage recorder and Cipolletti weir at same site and datum. Nov. 23, 1964, to June 26, 1967, nonrecording gage and Cipolletti weir at same site and datum.

REMARKS.--Records fair. Natural flow affected by storage in several reservoirs, many natural lakes, diversions for irrigation, and return flow from irrigated areas. Major portion of discharge from basin is diverted through Los Angeles Aqueduct. Discharge reported herein is wasted into Owens Lake.

COOPERATION.--Records were furnished by city of Los Angeles, Department of Water and Power.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 1,360 ft<sup>3</sup>/s (38.5 m<sup>3</sup>/s) June 19, 1969; no flow at times in some years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.0	3.0	5.8	8.5	8.5	8.8	7.0	5.3	3.2	.90		0
2	3.0	3.0	5.8	8.5	8.5	8.5	7.0	5.0	3.2	.90		0
3	2.8	3.2	6.1	8.8	8.5	8.5	7.0	5.0	3.2	.80		0
4	2.8	3.2	6.4	9.2	8.2	8.5	7.0	4.7	3.0	.60		0
5	2.8	3.2	6.4	9.2	8.2	8.5	7.6	4.7	3.0	.60		0
6	2.6	3.5	6.7	9.5	8.2	8.5	7.6	4.5	3.0	.60		0
7	2.4	3.5	6.7	9.5	8.5	8.5	7.6	4.5	3.0	.60		0
8	2.4	3.7	6.7	9.5	8.5	8.2	7.6	4.5	2.8	.50		0
9	2.4	3.7	7.0	9.5	8.5	7.9	7.3	4.5	2.8	.50		0
10	2.4	3.7	7.0	9.5	8.5	7.6	7.3	4.5	2.8	.50		0
11	2.4	3.7	7.0	8.2	8.5	7.6	7.3	4.2	2.8	.40		0
12	2.4	3.7	7.6	7.6	8.5	7.6	7.3	4.2	2.6	.40		0
13	2.2	4.0	7.6	7.6	8.5	7.6	7.0	4.2	2.6	.30		0
14	2.2	4.0	7.9	7.6	8.5	7.6	7.0	4.2	2.4	.20		0
15	2.2	4.0	7.6	7.9	8.5	7.3	6.7	4.2	2.4	0		0
16	2.2	4.0	7.6	8.2	8.5	7.3	6.7	4.0	2.2	0		0
17	2.2	4.0	7.9	9.8	8.5	7.6	6.7	4.0	2.0	0		.40
18	2.2	4.0	7.9	12	8.5	7.6	6.4	4.0	2.0	0		.60
19	2.2	4.0	7.9	16	8.5	7.6	6.4	4.0	2.2	0		.60
20	2.2	4.2	7.9	16	8.5	7.6	6.4	4.0	2.2	0		.60
21	2.2	4.5	7.9	14	8.8	7.6	6.4	3.7	2.2	0		.80
22	2.4	4.7	7.9	12	8.8	7.6	6.1	3.7	2.2	0		.80
23	2.4	4.7	7.9	10	8.8	7.6	6.1	3.7	1.6	0		.80
24	2.6	4.7	7.9	9.5	8.8	7.6	5.8	3.7	1.4	0		.90
25	2.6	4.7	7.9	9.2	8.8	7.6	5.8	3.7	1.2	0		.90
26	2.6	5.0	7.9	9.2	9.2	7.6	5.5	3.5	1.2	0		.90
27	2.6	5.3	7.9	8.8	8.8	7.3	5.5	3.5	1.1	0		.90
28	2.6	5.5	8.2	8.8	8.8	7.3	5.5	3.5	.90	0		.90
29	2.8	5.5	8.2	8.8	---	7.3	5.3	3.5	.90	0		.90
30	2.8	5.8	8.5	8.5	---	7.3	5.3	3.5	.90	0		.90
31	3.0	---	8.5	8.5	---	7.3	---	3.5	---	0		---
TOTAL	77.6	123.7	230.2	299.9	239.9	241.0	198.2	127.7	67.00	7.80	0	10.90
MEAN	2.50	4.12	7.43	9.67	8.57	7.77	6.61	4.12	2.23	.25	0	.36
MAX	3.0	5.8	8.5	16	9.2	8.8	7.6	5.3	3.2	.90	0	.90
MIN	2.2	3.0	5.8	7.6	8.2	7.3	5.3	3.5	.90	0	0	0
AC-FT	154	245	457	595	476	478	393	253	133	15	0	22
CAL YR 1976	TOTAL	1908.90	MEAN 5.22	MAX 50	MIN 0	AC-FT 3790						
WTR YR 1977	TOTAL	1623.90	MEAN 4.45	MAX 16	MIN 0	AC-FT 3220						

## 10286000 COTTONWOOD CREEK NEAR OLANCHA, CA

LOCATION.--Lat 36°26'20", long 118°04'48" (unsurveyed), Inyo County, Inyo National Forest, just downstream from intake to Cottonwood powerhouse, and 11.2 mi (18.0 km) north of Olancha.

DRAINAGE AREA.--40.1 mi<sup>2</sup> (103.9 km<sup>2</sup>).

PERIOD OF RECORD.--January 1906 to March 1911, January 1914 to current year; combined records of creek and flow through powerhouse, November 1938 to current year. Monthly discharge only January 1914 to September 1959, published in WSP 1314 and 1734.

REVISED RECORDS.--WDR CA-73-1: 1972.

GAGE.--Water-stage recorder and Cipolletti weir on powerhouse diversion. Altitude of gage is 4,660 ft (1,420 m), from topographic map. See WSP 1734 for history of changes prior to Oct. 31, 1938. Since May 15, 1969, supplementary gage at site 5.0 mi (8.0 km) downstream at different datum, and is presently used in computation of flow for the creek.

REMARKS.--Records poor. Cottonwood powerhouse, maximum capacity, 22 ft<sup>3</sup>/s (0.623 m<sup>3</sup>/s) has diverted since Nov. 13, 1908. Discharge figures for creek only are estimated by correlation with station 3.0 mi (4.8 km) downstream at the Los Angeles Aqueduct. For records of combined discharge of Cottonwood Creek and powerhouse, see following page.

COOPERATION.--Records were furnished by city of Los Angeles, Department of Water and Power.

AVERAGE DISCHARGE.--Combined creek and powerhouse: 67 years (water years 1906-10, 1914-77), 22.0 ft<sup>3</sup>/s (0.62 m<sup>3</sup>/s), 15,940 acre-ft/yr (19.7 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Creek only: Maximum discharge, 520 ft<sup>3</sup>/s (14.7 m<sup>3</sup>/s) June 3, 1969, gage height, unknown; no flow for periods in some years.  
Combined flow: Maximum discharge, 520 ft<sup>3</sup>/s (14.7 m<sup>3</sup>/s) June 3, 1969; minimum daily, 1.0 ft<sup>3</sup>/s (0.028 m<sup>3</sup>/s) July 22, 23, 1961.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.20	.20	.20	.20	.20	.20	.20	.20				
2	.20	.20	.20	.20	.20	.20	.20	.20				
3	.20	.20	.20	.20	.20	.20	.20	.20				
4	.20	.20	.20	.20	.20	.20	.20	.20				
5	.20	.20	.20	.20	.20	.20	.20	.20				
6	.20	.20	.20	.20	.20	.20	.20	1.6				
7	.20	.20	.20	.20	.20	.20	.20	.20				
8	.20	.20	.20	.20	.20	.20	.20	.20				
9	.20	.20	.20	.20	.20	.20	.20	.20				
10	.20	.20	.20	.20	.20	.20	.20	.20				
11	.20	.20	.20	.20	.20	.20	.20	.20				
12	.20	.20	.20	.20	.20	.20	.20	.20				
13	.20	.20	.20	.20	.20	.20	.20	.20				
14	.20	.20	.20	.20	.20	.20	.20	.60				
15	.20	.20	.20	.20	.20	.20	5.4	2.0				
16	.20	.20	.20	.20	.20	.20	14	.40				
17	.20	.20	.20	.20	.20	.20	19	.40				
18	.20	.20	.20	.20	.20	.20	6.6	.40				
19	.20	.20	.20	.20	.20	.20	2.6	.20				
20	.20	.20	.20	.20	.20	.20	1.2	.20				
21	.20	.20	.20	.20	.20	.20	1.0	10				
22	.20	.20	.20	.20	.20	.20	1.0	8.0				
23	.20	.20	.20	.20	.20	.20	.80	4.0				
24	.20	.20	.20	.20	.20	.20	1.4	1.4				
25	.20	.20	.20	.20	.20	.20	2.8	1.0				
26	.20	.20	.20	.20	.20	.20	5.4	1.0				
27	.20	.20	.20	.20	.20	.20	1.4	1.0				
28	.20	.20	.20	.20	.20	.20	3.6	.40				
29	.20	.20	.20	.20	---	.20	.40	.40				
30	.20	.20	.20	.20	---	.20	.20	.40				
31	.20	---	.20	.20	---	.20	---	.20	---			---
TOTAL	6.20	6.00	6.20	6.20	5.60	6.20	71.80	36.20	0	0	0	0
MEAN	.20	.20	.20	.20	.20	.20	2.39	1.17	0	0	0	0
MAX	.20	.20	.20	.20	.20	.20	19	10	0	0	0	0
MIN	.20	.20	.20	.20	.20	.20	.20	.20	0	0	0	0
AC-FT	12	12	12	12	11	12	142	72	0	0	0	0
CAL YR 1976	TOTAL 302.40		MEAN .83	MAX 70	MIN .20	AC-FT 600						
WTR YR 1977	TOTAL 144.40		MEAN .40	MAX 19	MIN 0	AC-FT 286						

## 10286000 COTTONWOOD CREEK NEAR OLANCHA, CA--Continued

COMBINED DISCHARGE, IN CUBIC FEET PER SECOND, OF COTTONWOOD CREEK AND  
POWERHOUSE NEAR OLANCHA, CA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	9.4	6.5	6.2	4.7	6.2	6.2	15	17	12	3.1	4.0
2	17	9.7	6.5	5.9	4.7	6.8	6.2	14	17	11	2.9	4.3
3	15	9.7	6.5	5.9	5.4	7.3	6.5	13	17	10	3.1	4.5
4	14	8.2	6.5	5.9	6.2	6.8	7.6	13	17	9.5	3.3	4.3
5	15	9.4	6.5	6.2	6.2	6.8	9.0	13	16	8.5	3.3	3.8
6	14	9.4	7.0	6.2	6.2	6.5	11	14	17	8.3	2.9	3.6
7	14	9.4	6.5	5.9	5.9	6.2	12	9.0	17	8.0	2.7	3.6
8	14	8.7	6.5	5.7	5.9	6.2	14	12	18	7.4	2.5	3.3
9	13	8.7	6.5	5.9	5.9	5.9	15	11	19	7.1	2.5	3.3
10	13	8.7	6.5	6.5	5.9	5.7	16	13	19	6.8	2.3	3.1
11	12	8.7	6.5	6.5	5.7	5.7	16	14	18	6.6	2.3	3.1
12	12	8.7	6.5	6.5	5.7	5.7	16	14	18	6.0	2.9	3.3
13	12	8.7	6.5	6.2	5.7	5.7	19	13	18	4.7	4.0	3.8
14	11	8.7	6.5	6.2	5.4	5.7	17	15	17	4.5	3.6	3.3
15	11	8.7	6.5	5.9	5.4	5.7	22	18	17	5.0	2.7	3.6
16	12	8.7	6.2	5.9	5.7	5.9	31	17	16	5.7	2.9	3.3
17	12	8.5	5.9	5.9	5.9	5.7	36	14	15	5.7	9.5	3.6
18	12	8.5	5.9	5.9	5.9	5.7	24	15	14	6.3	12	4.0
19	12	8.5	5.7	5.9	5.9	5.9	19	16	13	6.3	8.0	3.6
20	12	7.9	5.7	5.7	6.2	5.9	16	17	14	6.3	7.4	3.6
21	12	7.9	5.7	5.7	7.0	5.9	18	28	14	6.3	6.6	3.6
22	12	7.9	5.9	5.7	6.5	5.9	18	25	13	5.7	7.1	3.6
23	12	7.6	5.9	5.9	6.2	6.5	18	22	13	5.5	6.3	3.3
24	11	7.6	5.9	5.7	5.9	6.5	18	19	13	5.2	6.0	3.3
25	11	7.3	5.9	5.9	6.2	6.2	18	19	13	4.7	5.5	3.3
26	10	7.0	5.9	5.9	6.8	5.9	16	18	12	4.5	5.0	3.3
27	9.7	7.0	5.9	5.9	6.8	5.9	18	18	11	4.3	4.7	3.3
28	9.7	7.0	5.9	5.2	7.3	6.2	17	17	11	4.0	3.8	3.3
29	7.9	6.8	5.9	5.2	---	5.9	17	17	11	3.8	3.6	3.3
30	7.9	6.8	5.9	4.9	---	5.4	16	17	12	3.6	3.6	3.1
31	9.7	---	5.9	4.9	---	5.9	---	17	---	3.3	3.6	---
TOTAL	377.9	249.8	192.1	181.8	167.2	188.2	493.5	497.0	457	196.6	139.7	106.4
MEAN	12.2	8.33	6.20	5.86	5.97	6.07	16.5	16.0	15.2	6.34	4.51	3.55
MAX	18	9.7	7.0	6.5	7.3	7.3	36	28	19	12	12	4.5
MIN	7.9	6.8	5.7	4.9	4.7	5.4	6.2	9.0	11	3.3	2.3	3.1
AC-FT	750	495	381	361	332	373	979	986	906	390	277	211
CAL YR 1976	TOTAL	3364.8	MEAN 9.19	MAX 82	MIN 3.1	AC-FT 6670						
WTR YR 1977	TOTAL	3247.2	MEAN 8.90	MAX 36	MIN 2.3	AC-FT 6440						

## MONO LAKE BASIN

10287000 MONO LAKE NEAR MONO LAKE, CA

LOCATION.--Lat 37°58'46", long 119°08'11", in NW¼ sec.5, T.2 N., R.26 E., Mono County, on west bank 1 mi (2 km) south of town of Mono Lake.

DRAINAGE AREA.--785 mi<sup>2</sup> (2,033 km<sup>2</sup>).

PERIOD OF RECORD.--June 1912 to current year. Records prior to September 1934, published in WSP 765.

GAGE.--Nonrecording gage or reference point read once a week. Gage heights prior to October 1944 are converted to elevations above mean sea level in WSP 1314. Gage readings have been reduced to elevations above mean sea level.

REMARKS.--Since 1941 water diverted to Owens Lake basin via Mono tunnel, capacity, 200 ft<sup>3</sup>/s (5.66 m<sup>3</sup>/s).

COOPERATION.--Records were furnished by city of Los Angeles, Department of Water and Power.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation observed, 6,428.1 ft (1,959.28 m) July 18, 1919, present datum; minimum observed, 6,375.26 ft (1,943.179 m) Sept. 22, 1977.

## ELEVATION, IN FEET, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

Date	Elevation	Date	Elevation	Date	Elevation	Date	Elevation
Oct. 7	6377.32	Jan. 19	6376.57	Apr. 21	6376.51	July 18	6376.09
14	6377.29	Feb. 2	6376.48	27	6376.49	Aug. 4	6375.92
25	6377.17	9	6376.43	May 12	6376.38	11	6375.87
Nov. 4	6377.15	17	6376.58	27	6376.31	18	6375.86
10	6377.09	23	6376.63	June 8	6376.27	Sept. 8	6375.48
22	6376.78	Mar. 10	6376.61	23	6376.28	15	6375.46
Dec. 7	6376.75	22	6376.60	July 11	6376.27	22	6375.26
28	6376.59						



## 10287070 MILL CREEK BELOW LUNDY LAKE, NEAR MONO LAKE, CA

LOCATION.--Lat 38°01'58", long 119°12'53", in SE¼NE¼ sec.16, T.2 N., R.25 E., Mono County, Inyo National Forest, at road crossing 1,500 ft (457 m) downstream from Lundy Lake Dam, and 4.9 mi (7.9 km) northwest of Mono Lake Post Office.

DRAINAGE AREA.--18.1 mi<sup>2</sup> or 46.9 km<sup>2</sup> (natural flow).

PERIOD OF RECORD.--October 1942 to current year. Monthly and yearly mean discharges prior to October 1969, published in WSP 2127.

GAGE.--Water-stage recorder and Parshall flume on creek. Altitude of gage is 7,760 ft (2,365 m), from topographic map.

REMARKS.--Flow regulated for power development by Lundy Lake, capacity, 3,820 acre-ft (4.71 hm<sup>3</sup>). Records for "actual flow" include Mill Creek, Lundy powerplant tailrace, and Upper Conway ditch. Records for "natural flow" are computed as the "actual flow" plus change in contents and evaporation of Lundy Lake.

COOPERATION.--Records were furnished by Southern California Edison Co. and reviewed by the Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE (Actual flow).--36 years, 27.8 ft<sup>3</sup>/s (0.787 m<sup>3</sup>/s), 20,140 acre-ft/yr (24.8 hm<sup>3</sup>/yr).  
(Natural flow).--36 years, 29.6 ft<sup>3</sup>/s (0.838 m<sup>3</sup>/s), 21,450 acre-ft/yr (26.4 hm<sup>3</sup>/yr).

EXTREMES (ACTUAL FLOW) FOR PERIOD OF RECORD (SINCE 1970).--Maximum daily discharge, 117 ft<sup>3</sup>/s (3.31 m<sup>3</sup>/s) June 14, 1973; no flow many days in 1971 and 1974.

EXTREMES (ACTUAL FLOW) FOR CURRENT YEAR.--Maximum daily discharge, 63 ft<sup>3</sup>/s (1.78 m<sup>3</sup>/s) June 4-7, 9, 11; minimum daily, 4.1 ft<sup>3</sup>/s (0.12 m<sup>3</sup>/s) Feb. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.9	8.6	4.6	5.1	4.1	5.6	5.6	15	21	37	12	4.8
2	9.9	7.9	4.6	5.1	4.5	5.3	5.6	14	28	37	12	4.6
3	9.9	7.4	4.6	5.1	4.2	5.4	5.6	13	47	37	12	4.6
4	10	7.5	4.6	5.1	4.2	5.2	5.6	16	63	37	11	4.6
5	10	6.7	4.7	5.1	4.2	4.8	6.8	14	63	37	12	4.6
6	10	6.7	4.7	5.1	4.2	4.8	8.8	11	63	37	12	4.6
7	10	6.7	5.9	5.2	4.2	4.9	9.3	11	63	37	11	4.6
8	10	6.7	6.5	5.2	4.4	4.8	8.2	11	62	24	11	4.7
9	10	6.7	6.5	5.2	4.6	4.8	7.6	11	63	17	11	4.8
10	10	6.7	6.5	5.2	4.6	4.9	7.6	11	62	17	11	4.9
11	10	6.7	6.5	5.2	4.6	4.9	7.6	11	63	18	12	4.9
12	10	6.7	6.5	5.2	4.6	4.9	8.3	11	54	19	11	4.9
13	9.7	6.7	5.6	5.2	4.6	4.9	8.7	11	59	19	11	4.9
14	9.7	6.7	5.6	5.1	4.4	4.9	8.7	11	59	19	11	4.9
15	9.7	6.7	5.9	5.1	4.4	4.9	8.4	12	59	15	9.4	4.3
16	9.7	6.7	5.9	5.1	4.4	5.1	8.2	12	59	13	8.0	4.6
17	9.8	6.7	5.6	5.1	4.4	5.2	8.2	12	59	13	8.0	4.7
18	10	6.7	5.2	5.1	4.4	5.2	9.7	12	59	13	8.0	4.6
19	10	6.7	5.2	5.1	4.6	5.2	11	12	59	13	8.1	4.6
20	9.4	6.7	5.2	5.2	4.6	5.2	10	12	49	13	8.1	4.6
21	9.0	6.7	5.2	5.2	4.7	5.2	7.3	12	32	13	8.0	4.6
22	9.0	5.2	5.2	5.2	4.7	5.2	8.2	12	27	13	8.1	4.6
23	9.0	4.6	5.1	5.1	5.2	5.1	7.9	12	27	13	8.0	4.6
24	9.1	4.6	5.1	5.1	5.6	5.2	7.9	12	27	13	8.0	4.7
25	9.0	4.6	5.1	5.1	5.6	5.2	7.9	12	27	13	8.2	4.7
26	8.7	4.6	5.1	5.4	5.6	5.2	8.1	12	27	12	8.2	4.6
27	8.4	4.6	5.1	5.7	5.6	5.2	8.1	12	32	12	8.2	4.6
28	8.5	4.6	5.1	5.7	5.6	5.2	8.4	12	36	12	8.2	4.7
29	8.5	4.6	5.1	5.7	---	5.2	11	12	37	12	8.2	5.0
30	8.5	4.6	5.1	5.7	---	5.2	14	12	38	12	8.2	5.8
31	8.5	---	5.1	4.7	---	5.4	---	16	---	12	6.4	---
TOTAL	293.9	187.3	166.7	161.4	130.8	158.2	248.3	379	1424	609	297.3	141.7
MEAN	9.48	6.24	5.38	5.21	4.67	5.10	8.28	12.2	47.5	19.6	9.59	4.72
MAX	10	8.6	6.5	5.7	5.6	5.6	14	16	63	37	12	5.8
MIN	8.4	4.6	4.6	4.7	4.1	4.8	5.6	11	21	12	6.4	4.3
AC-FT	583	372	331	320	259	314	493	752	2820	1210	590	281
(†)	593	395	333	311	284	309	499	758	3020	1100	617	375

CAL YR 1976 TOTAL 4217.5 MEAN 11.5 MAX 33 MIN 4.6 AC-FT 8370 + 8730  
WTR YR 1977 TOTAL 4197.6 MEAN 11.5 MAX 63 MIN 4.1 AC-FT 8330 + 8590

† Computed natural flow, in acre-feet.

## MONO LAKE BASIN

10287290 RUSH CREEK BELOW AGNEW LAKE, NEAR JUNE LAKE, CA

LOCATION.--Lat 37°45'32", long 119°07'47", in NE¼SW¼ sec.20, T.2 S., R.26 E., Mono County, Inyo National Forest, 500 ft (152 m) downstream from Agnew Lake Dam, and 3.4 mi (5.5 km) southwest of town of June Lake.

DRAINAGE AREA.--23.3 mi<sup>2</sup> or 60.3 km<sup>2</sup> (natural flow).

PERIOD OF RECORD.--October 1951 to current year. Monthly and yearly mean discharges prior to October 1969, published in WSP 2127.

GAGE.--Water-stage recorder and Parshall flume on creek. Altitude of gage is 8,480 ft (2,585 m), from topographic map.

REMARKS.--Flow regulated for power development by Waugh, Gem, and Agnew Lakes, combined capacity, 23,420 acre-ft (28.9 hm<sup>3</sup>) and Rush Creek powerplant. "Actual flow" is total flow of Rush Creek below Agnew Lake and Rush Creek powerplant tailrace. "Natural flow" is the sum of "actual flow", change in contents and evaporation for Waugh, Gem, and Agnew Lakes.

COOPERATION.--Records furnished by Southern California Edison Co., and reviewed by the Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE (Actual flow).--26 years, 53.5 ft<sup>3</sup>/s (1.515 m<sup>3</sup>/s), 38,760 acre-ft/yr (47.8 hm<sup>3</sup>/yr).  
(Natural flow).--26 years, 57.7 ft<sup>3</sup>/s (1.634 m<sup>3</sup>/s), 41,800 acre-ft/yr (51.5 hm<sup>3</sup>/yr).

EXTREMES (ACTUAL FLOW) FOR PERIOD OF RECORD (SINCE 1970).--Maximum daily discharge, 398 ft<sup>3</sup>/s (11.3 m<sup>3</sup>/s) Aug. 1, 1974; minimum daily, 0.90 ft<sup>3</sup>/s (0.025 m<sup>3</sup>/s) Aug. 31 to Sept. 2, 1976.

EXTREMES (ACTUAL FLOW) FOR CURRENT YEAR.--Maximum daily discharge, 44 ft<sup>3</sup>/s (1.25 m<sup>3</sup>/s) June 30 to July 4; minimum daily, 7.1 ft<sup>3</sup>/s (0.20 m<sup>3</sup>/s) Oct. 23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28	26	20	18	22	18	19	18	28	44	20	22
2	28	26	20	19	20	18	19	17	26	44	21	21
3	28	26	22	20	20	18	19	15	17	44	21	21
4	28	20	20	20	22	18	20	15	19	44	21	20
5	27	22	22	20	20	18	20	17	27	38	21	11
6	27	20	20	19	20	18	19	17	30	25	21	10
7	27	20	18	20	20	18	19	17	19	28	21	10
8	27	20	18	19	20	18	19	17	22	26	21	10
9	28	19	20	10	18	20	19	17	29	17	21	14
10	28	23	20	19	18	20	19	18	23	16	14	21
11	27	24	18	21	18	20	19	17	18	19	22	21
12	27	26	20	21	18	22	18	18	18	20	21	21
13	30	26	20	17	18	22	18	18	26	19	22	22
14	31	27	18	17	18	20	17	18	22	19	21	21
15	38	22	18	19	18	21	17	18	18	23	21	22
16	38	22	20	19	20	21	17	18	22	20	22	23
17	38	28	22	20	20	20	17	17	18	19	22	21
18	38	28	21	19	20	21	17	18	17	20	21	21
19	38	28	21	19	20	20	17	18	25	21	19	22
20	38	28	21	19	20	20	17	18	17	21	20	21
21	21	28	21	20	20	20	16	17	17	19	20	21
22	11	25	20	20	22	20	16	18	18	20	20	21
23	7.1	26	17	20	20	18	16	18	17	20	20	21
24	10	28	17	20	20	20	17	18	16	20	20	21
25	24	28	17	20	20	20	18	18	17	19	21	21
26	19	25	18	22	20	19	17	18	17	20	21	20
27	26	20	18	22	18	20	17	17	17	21	21	20
28	30	22	17	22	18	20	16	17	24	20	21	20
29	27	20	16	22	---	20	17	17	29	20	21	19
30	25	18	17	22	---	19	18	18	44	21	22	20
31	26	---	18	20	---	17	---	17	---	20	22	---
TOTAL	845.1	721	595	605	548	604	534	539	657	747	642	579
MEAN	27.3	24.0	19.2	19.5	19.6	19.5	17.8	17.4	21.9	24.1	20.7	19.3
MAX	38	28	22	22	22	22	20	18	44	44	22	23
MIN	7.1	18	16	10	18	17	16	15	16	16	14	10
AC-FT	1680	1430	1180	1200	1090	1200	1060	1070	1300	1480	1270	1150
(†)	607	114	6	76	66	159	2460	2750	5470	1270	743	327

CAL YP 1976 TOTAL 9156.20 MEAN 25.0 MAX 47 MIN .90 AC-FT 18160 † 16890  
WTR YR 1977 TOTAL 7616.10 MEAN 20.9 MAX 44 MIN 7.1 AC-FT 15110 † 14050

† Computed natural flow, in acre-feet.

## 10287400 RUSH CREEK ABOVE GRANT LAKE, NEAR JUNE LAKE, CA

LOCATION.--Lat 37°48'23", long 119°06'29", in NE¼ sec.4, T.2 S., R.26 E., Mono County, on left bank in narrows, 0.6 mi (1.0 km) upstream from Grant Lake, and 2.7 mi (4.3 km) northwest of town of June Lake.

DRAINAGE AREA.--51.3 mi<sup>2</sup> (132.8 km<sup>2</sup>).

PERIOD OF RECORD.--December 1936 to current year. Prior to October 1959 monthly discharge only, published in WSP 1314 and 1734.

GAGE.--Water-stage recorder and Parshall flume. Altitude of gage is 7,200 ft (2,195 m), from topographic map.

REMARKS.--Records poor. Flow regulated by Gem Lake, Lake Agnew, Waugh Lake, combined capacity, 23,400 acre-ft (28.9 hm<sup>3</sup>) and by many natural lakes. No diversion above station.

COOPERATION.--Records were furnished by city of Los Angeles, Department of Water and Power.

AVERAGE DISCHARGE.--40 years (water years 1938-77), 80.0 ft<sup>3</sup>/s (2.27 m<sup>3</sup>/s), 57,960 acre-ft/yr (71.5 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,070 ft<sup>3</sup>/s (30.3 m<sup>3</sup>/s) July 14, 1967, gage height, 6.20 ft (1.890 m); minimum daily, 5.5 ft<sup>3</sup>/s (0.16 m<sup>3</sup>/s) Sept. 6-8, 14, 1954.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	37	33	28	22	31	31	33	35	45	66	31	29
2	39	33	28	24	31	31	33	35	56	65	31	29
3	39	33	28	26	31	31	33	34	62	64	31	29
4	39	32	28	26	31	31	34	33	61	63	30	29
5	38	31	28	26	31	31	36	31	60	61	30	28
6	37	29	28	26	31	31	35	31	64	53	30	24
7	37	28	26	26	31	31	33	31	65	46	28	22
8	37	28	26	26	30	31	34	31	58	45	28	22
9	36	28	26	26	29	31	35	31	75	45	28	21
10	34	28	26	26	29	31	34	31	86	43	28	21
11	35	29	26	27	28	31	34	31	74	41	28	21
12	37	31	26	27	28	31	33	31	64	39	28	24
13	38	33	26	28	28	31	33	33	60	37	28	26
14	39	33	26	28	28	31	33	34	57	35	28	28
15	41	32	26	30	30	31	33	34	54	35	28	28
16	44	31	26	30	31	31	33	34	52	34	28	28
17	45	31	26	30	31	31	34	34	52	34	30	29
18	45	33	26	30	31	31	35	33	50	33	31	29
19	45	34	26	30	31	31	35	33	47	33	31	29
20	45	35	26	30	31	31	34	34	47	33	31	29
21	44	35	26	30	31	31	34	34	46	33	29	29
22	33	33	26	30	31	31	33	34	45	33	29	30
23	28	34	26	30	31	31	33	35	43	32	29	29
24	25	54	26	31	31	31	33	35	42	32	28	29
25	24	42	26	31	31	31	33	36	41	32	28	29
26	26	38	26	31	31	31	32	37	40	33	28	28
27	37	32	23	31	31	31	33	37	39	32	28	28
28	45	31	23	31	31	32	33	37	39	31	29	28
29	44	29	23	31	---	33	35	37	40	31	29	28
30	39	28	23	31	---	33	35	38	47	31	30	28
31	36	---	23	31	---	33	---	41	---	31	31	---
TOTAL	1168	981	803	882	850	968	1011	1055	1611	1256	904	811
MFAN	37.7	32.7	25.9	28.5	30.4	31.2	33.7	34.0	53.7	40.5	29.2	27.0
MAX	45	54	28	31	31	33	36	41	86	66	31	30
MIN	24	28	23	22	28	31	32	31	39	31	28	21
AC-FT	2320	1950	1590	1750	1690	1920	2010	2090	3200	2490	1790	1610
CAL YR 1976	TOTAL	14021	MEAN 38.3	MAX 67	MIN 16	AC-FT 27810						
WTR YR 1977	TOTAL	12300	MEAN 33.7	MAX 86	MIN 21	AC-FT 24400						



## 11012000 COTTONWOOD CREEK ABOVE TECATE CREEK, NEAR DULZURA, CA

LOCATION.--Lat 32°34'30", long 116°45'11", in NW¼NW¼SW¼ sec.26, T.18 S., R.2 E., San Diego County, on right bank 0.8 mi (1.3 km) upstream from confluence with Tecate Creek, and 5.1 mi (8.2 km) south of Dulzura.

DRAINAGE AREA.--310 mi<sup>2</sup> (803 km<sup>2</sup>).

PERIOD OF RECORD.--October 1936 to current year.

GAGE.--Water-stage recorder. Datum of gage is 569.40 ft (173.55 m) above mean sea level (levels by International Boundary and Water Commission).

REMARKS.--Records fair. Flow regulated by Morena Reservoir, capacity, 50,120 acre-ft (61.9 hm<sup>3</sup>) and Barrett Reservoir, capacity, 44,760 acre-ft (55.2 hm<sup>3</sup>). Water released from Barrett Reservoir through Dulzura conduit is diverted to Lower Otay Reservoir.

AVERAGE DISCHARGE.--41 years, 5.71 ft<sup>3</sup>/s (0.162 m<sup>3</sup>/s), 4,140 acre-ft/yr (5.10 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,340 ft<sup>3</sup>/s (123 m<sup>3</sup>/s) Feb. 7, 1937, gage height, 9.65 ft (2.941 m) from rating curve extended above 1,500 ft<sup>3</sup>/s (42.5 m<sup>3</sup>/s); no flow for part of each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1.2 ft<sup>3</sup>/s (0.034 m<sup>3</sup>/s) Jan. 7, gage height, 1.63 ft (0.497 m); no flow most of year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1				0								
2				0								
3				0								
4				0								
5				0								
6				.39								
7				.94								
8				.81								
9				.49								
10				.29								
11				.19								
12				.14								
13				.09								
14				.05								
15				.02								
16				0								
17				0								
18				0								
19				0								
20				0								
21				0								
22				0								
23				0								
24				0								
25				0								
26				0								
27				0								
28				0								
29				0	---							
30				0	---							
31		---		0	---		---		---			---
TOTAL	0	0	0	3.41	0	0	0	0	0	0	0	0
MEAN	0	0	0	.11	0	0	0	0	0	0	0	0
MAX	0	0	0	.94	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	0	6.8	0	0	0	0	0	0	0	0
CAL YR 1976	TOTAL	130.96	MEAN .36	MAX	34	MIN 0	AC-FT 260					
WTR YR 1977	TOTAL	3.41	MEAN .009	MAX	.94	MIN 0	AC-FT 6					

## TIJUANA RIVER BASIN

11012500 CAMPO CREEK NEAR CAMPO, CA

LOCATION.--Lat 32°35'28", long 116°31'29", in SW¼NE¼SE¼ sec.24, T.18 S., R.4 E., San Diego County, on left bank just upstream from bridge on State Highway 94, 3.5 mi (5.6 km) southwest of Campo.

DRAINAGE AREA.--85.0 mi<sup>2</sup> (220.2 km<sup>2</sup>), of which 3 mi<sup>2</sup> (8 km<sup>2</sup>) are in Mexico.

PERIOD OF RECORD.--October 1936 to current year.

GAGE.--Water-stage recorder and broad-crested weir. Datum of gage is 2,178.92 ft (664.135 m) above mean sea level. Prior to Dec. 1, 1954, at datum 1 ft (0.3 m) higher.

REMARKS.--Records poor. Flow partly regulated by small conservation reservoir since August 1956. No diversion above station.

AVERAGE DISCHARGE.--41 years, 1.55 ft<sup>3</sup>/s (0.044 m<sup>3</sup>/s), 1,120 acre-ft/yr (1.38 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 880 ft<sup>3</sup>/s (24.9 m<sup>3</sup>/s) Feb. 6, 1937, gage height, 4.80 ft (1.463 m), present datum, from rating curve extended above 110 ft<sup>3</sup>/s (3.12 m<sup>3</sup>/s) on basis of velocity mean-depth relation and cross-sectional area at control; no flow for part of most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 0.66 ft<sup>3</sup>/s (0.019 m<sup>3</sup>/s) Jan. 3, gage height, 1.27 ft (0.387 m), no peak above base of 20.0 ft<sup>3</sup>/s (0.57 m<sup>3</sup>/s); no flow for part of year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.01	0	0	0	0	.01	.01	.01	.01		0	
2	.01	0	0	0	0	.01	.02	.01	.01		0	
3	.01	0	0	.05	0	0	.01	.02	.01		0	
4	0	0	0	.02	0	0	.01	.02	.01		0	
5	0	0	0	.04	0	0	.01	.01	.05		0	
6	0	0	0	.03	0	0	.01	.01	.05		0	
7	0	0	0	.03	0	0	.01	.02	.04		0	
8	0	0	0	.03	0	0	.01	.02	.04		0	
9	0	0	0	.02	0	0	.01	.02	.04		0	
10	0	0	0	.02	0	0	.01	.03	.03		0	
11	0	0	0	.01	0	0	.01	.02	.03		0	
12	0	.03	0	.01	0	.01	.01	.03	.03		0	
13	0	.01	0	.01	0	.01	.01	.02	.03		0	
14	0	0	0	.01	0	.01	.01	.02	.02		0	
15	0	0	0	.01	0	.01	.01	.02	.01		0	
16	0	0	0	.01	.01	.02	.01	.02	0		.06	
17	0	0	0	0	.01	0	.01	.02	0		.07	
18	0	0	0	0	.01	0	.01	.02	0		0	
19	0	0	0	0	.01	0	.01	.02	0		0	
20	0	0	0	0	.03	0	.01	.02	0		0	
21	0	0	0	0	.01	0	.01	.02	0		0	
22	.01	0	0	0	.01	0	.01	.02	0		0	
23	0	0	0	0	.01	0	.01	.02	0		0	
24	0	0	0	0	.03	0	.01	.03	0		0	
25	0	0	0	0	.01	.02	.01	.03	0		0	
26	0	0	0	0	.01	.01	.01	.02	0		0	
27	0	0	0	0	.01	.01	.01	.02	0		0	
28	0	0	0	0	.01	.01	.01	.02	0		0	
29	0	0	0	0	---	.01	.01	.02	0		0	
30	0	0	0	0	---	.01	.01	.02	0		0	
31	0	---	.04	0	---	.01	---	.01	---		0	---
TOTAL	.04	.04	.04	.30	.17	.16	.31	.61	.41	0	.13	0
MEAN	.001	.001	.001	.010	.006	.005	.010	.020	.014	0	.004	0
MAX	.01	.03	.04	.05	.03	.02	.02	.03	.05	0	.07	0
MIN	0	0	0	0	0	0	.01	.01	0	0	0	0
AC-FT	.08	.08	.08	.6	.3	.3	.6	1.2	.8	0	.3	0

CAL YR 1976 TOTAL 4.22 MEAN .012 MAX .23 MIN 0 AC-FT 8.4  
WTR YR 1977 TOTAL 2.21 MEAN .0060 MAX .07 MIN 0 AC-FT 4.4

## 11013000 TIJUANA RIVER NEAR DULZURA, CA

LOCATION.--Lat 32°33'56", long 116°46'27", in E½ sec.33, T.18 S., R.2 E., San Diego County, on left bank 0.5 mi (0.8 km) downstream from confluence of Cottonwood and Tecate Creeks, and 5.5 mi (8.8 km) south of Dulzura.

DRAINAGE AREA.--481 mi<sup>2</sup> (1,246 km<sup>2</sup>), of which 70 mi<sup>2</sup> (181 km<sup>2</sup>) are in Mexico.

PERIOD OF RECORD.--October 1936 to current year.

GAGE.--Water-stage recorder. Datum of gage is 542.42 ft (165.330 m) above mean sea level (levels by International Boundary and Water Commission). Prior to Sept. 19, 1939, at datum 2.00 ft (0.610 m) higher.

REMARKS.--Records poor. Flow regulated by Morena Reservoir, capacity, 50,210 acre-ft (61.9 hm<sup>3</sup>) and Barrett Reservoir, capacity, 44,760 acre-ft (55.2 hm<sup>3</sup>). Water diverted from Cottonwood Creek at Barrett Dam by Dulzura conduit to Jamul Creek.

AVERAGE DISCHARGE.--41 years, 9.20 ft<sup>3</sup>/s (0.261 m<sup>3</sup>/s), 6,670 acre-ft/yr (8.22 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,700 ft<sup>3</sup>/s (133 m<sup>3</sup>/s) Feb. 7, 1937, gage height, 8.50 ft (2.591 m) present datum, from rating curve extended above 300 ft<sup>3</sup>/s (8.50 m<sup>3</sup>/s) on basis of velocity, mean-depth, and area studies; no flow for part of most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 9.3 ft<sup>3</sup>/s (0.263 m<sup>3</sup>/s) Jan. 7, gage height, 2.42 ft (0.738 m); minimum daily, 0.03 ft<sup>3</sup>/s (<0.001 m<sup>3</sup>/s) July 27, 28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.08	.12	.23	.69	.10	.23	.50	.16	.21	.07	.07	.10
2	.08	.12	.25	.80	.10	.21	.51	.17	.22	.08	.07	.08
3	.08	.12	.26	1.0	.10	.17	.52	.15	.23	.07	.06	.08
4	.08	.13	.28	1.2	.10	.18	.54	.17	.25	.06	.06	.09
5	.08	.13	.28	1.5	.10	.17	.52	.18	.27	.07	.06	.11
6	.08	.13	.28	2.0	.10	.16	.48	.15	.28	.08	.05	.11
7	.07	.11	.31	2.5	.10	.16	.45	.15	.28	.07	.04	.11
8	.07	.11	.30	.80	.10	.15	.44	.15	.28	.07	.04	.10
9	.07	.13	.28	.25	.10	.15	.46	.22	.29	.08	.04	.10
10	.07	.14	.28	.20	.10	.15	.45	.13	.24	.07	.04	.09
11	.07	.15	.28	.18	.12	.15	.43	.11	.19	.07	.04	.09
12	.07	.83	.22	.16	.12	.15	.42	.12	.15	.07	.05	.09
13	.07	1.1	.21	.15	.12	.15	.39	.13	.12	.07	.05	.09
14	.07	.20	.20	.15	.12	.15	.40	.11	.11	.08	.04	.09
15	.08	.16	.19	.15	.12	.15	.40	.11	.10	.10	.05	.09
16	.08	.14	.17	.15	.12	.15	.37	.11	.12	.09	.10	.09
17	.08	.13	.16	.15	.12	.40	.37	.11	.12	.07	.11	.08
18	.09	.13	.15	.15	.12	.35	.34	.11	.12	.07	.11	.08
19	.09	.13	.15	.15	.12	.28	.34	.09	.12	.07	.10	.09
20	.10	.15	.15	.15	.12	.25	.34	.09	.13	.06	.08	.10
21	.10	.15	.16	.13	.15	.25	.31	.09	.13	.06	.07	.10
22	.13	.15	.15	.13	.15	.25	.31	.09	.13	.05	.07	.10
23	.17	.17	.16	.13	.15	.25	.26	.09	.14	.05	.07	.12
24	.17	.17	.17	.13	.15	.25	.23	.11	.13	.07	.09	.12
25	.17	.17	.17	.13	.28	.60	.24	.11	.10	.08	.09	.13
26	.17	.18	.17	.13	.26	.55	.19	.10	.09	.06	.10	.15
27	.14	.19	.17	.13	.25	.50	.20	.11	.10	.03	.11	.13
28	.13	.19	.17	.13	.24	.50	.17	.11	.06	.03	.09	.11
29	.14	.19	.17	.13	---	.46	.18	.13	.06	.04	.08	.11
30	.15	.20	.18	.13	---	.47	.17	.16	.06	.07	.09	.12
31	.15	---	.36	.13	---	.48	---	.19	---	.07	.11	---
TOTAL	3.18	6.12	6.66	13.91	3.83	8.47	10.93	4.01	4.83	2.08	2.23	3.05
MEAN	.10	.20	.21	.45	.14	.27	.36	.13	.16	.067	.072	.10
MAX	.17	1.1	.36	2.5	.28	.60	.54	.22	.29	.10	.11	.15
MIN	.07	.11	.15	.13	.10	.15	.17	.09	.06	.03	.04	.08
AC-FT	6.3	12	13	28	7.6	17	22	8.0	9.6	4.1	4.4	6.0
CAL YR 1976	TOTAL	259.86	MEAN	.71	MAX	43	MIN	.03	AC-FT	515		
WTR YR 1977	TOTAL	69.30	MEAN	.19	MAX	2.5	MIN	.03	AC-FT	137		

## TIJUANA RIVER BASIN

11013200 RODRIGUEZ RESERVOIR AT RODRIGUEZ DAM, BAJA CALIFORNIA, MEXICO

LOCATION.--Lat 32°26'40", long 116°54'25", Baja California, Mexico, at Rodriguez Dam on Rio de las Palmas, 0.2 mi (0.3 km) upstream from Arroyo Matanuco, and 10 mi (16 km) southeast of Tijuana.

DRAINAGE AREA.--977 mi<sup>2</sup> (2,530 km<sup>2</sup>), of which 10 mi<sup>2</sup> (26 km<sup>2</sup>) are in the United States.

PERIOD OF RECORD.--April 1937 to current year. Published with record for Tijuana River near Nestor, Calif., October 1953 to September 1957. Monthend contents for April 1937 to September 1950 published in WSP 1315-B and for October 1950 to September 1960 in WSP 1735.

GAGE.--Nonrecording gage read once a day. Datum of gage is at mean sea level (levels by National Irrigation Commission, Mexico).

REMARKS.--Reservoir is formed by thin-shell concrete-arch dam completed in 1936; storage began in 1937. Capacity table is based on surveys made in 1927. Maximum storage at crest of spillway gates, elevation, 410.10 ft (124.998 m), 111,070 acre-ft (137 hm<sup>3</sup>); at spillway lip, elevation, 380.08 ft (115.848 m), 74,580 acre-ft (92.0 hm<sup>3</sup>); dead storage below outlet, elevation, 267.39 ft (81.500 m), 1,650 acre-ft (2.03 hm<sup>3</sup>) included in contents. Reservoir stores water for irrigation of 3,000 acres (12.1 km<sup>2</sup>) on both banks 0.5 to 5.5 mi (0.8 to 8.8 km) downstream and municipal supply for city of Tijuana. Since August 1972 Colorado River water diverted through Otay aqueduct into the reservoir for Tijuana emergency use; this year 136 acre-ft (168,000 m<sup>3</sup>) was imported.

COOPERATION.--Records were furnished by Ministry of Hydraulic Resources, Government of Mexico, through International Boundary and Water Commission, United States section.

EXTREMES FOR PERIOD OF RECORD.--Reservoir spilled during March 1938, September 1940, February to May 1941, March 1942, and February, March 1944; reservoir dry Apr. 2, 1964, to Apr. 9, 1965, Aug. 21 to Nov. 22, 1965.

EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 2,910 acre-ft (3.59 hm<sup>3</sup>) Oct. 1, 2; minimum observed, 1,110 acre-ft (1.37 hm<sup>3</sup>) Sept. 30.

## MONTHEND CONTENTS, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

Date	Contents (acre- feet)	Change in contents (acre- feet)
Sept. 30.....	2910	--
Oct. 31.....	2880	-30
Nov. 30.....	2820	-60
Dec. 31.....	2720	-100
CAL YR 1976.....	--	+540
Jan. 31.....	2680	-40
Feb. 28.....	2400	-280
Mar. 31.....	2200	-200
Apr. 30.....	1970	-230
May 31.....	1850	-120
June 30.....	1670	-180
July 31.....	1500	-170
Aug. 31.....	1320	-180
Sept. 30.....	1100	-220
WTR YR 1977 .....	--	-1810



## 11013500 TIJUANA RIVER NEAR NESTOR, CA

LOCATION.--Lat 32°33'06", long 117°05'00", on line between secs.3 and 4, T.19 S., R.2 W., San Diego County, on downstream side of Hollister Street bridge, 1.7 mi (2.7 km) south of Nestor, and 2.9 mi (4.7 km) upstream from mouth at Pacific Ocean.

DRAINAGE AREA.--1,695 mi<sup>2</sup> (4,390 km<sup>2</sup>), of which 1,236 mi<sup>2</sup> (3,201 km<sup>2</sup>) are in Mexico.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1914 to September 1915, October 1936 to current year.

GAGE.--Water-stage recorder. Datum of gage is 15.14 ft (4.615 m) above mean sea level. See WSP 1735 for history of changes prior to Aug. 5, 1958.

REMARKS.--Records fair. Flow regulated by Morena Reservoir, capacity, 50,210 acre-ft (61.9 hm<sup>3</sup>) and Barrett Reservoir, capacity, 44,760 acre-ft (55.2 hm<sup>3</sup>) in the United States, and Rodriguez Reservoir (station 11013200) in Mexico. Water diverted from Cottonwood Creek at Barrett Dam by Dulzura conduit to Jamul Creek. AVERAGE DISCHARGE represents flow to the ocean regardless of upstream development.

COOPERATION.--One discharge measurement was furnished by U. S. International Boundary and Water Commission.

AVERAGE DISCHARGE.--42 years, 26.8 ft<sup>3</sup>/s (0.759 m<sup>3</sup>/s), 19,420 acre-ft/yr (23.9 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD (SINCE 1936).--Maximum discharge, 17,700 ft<sup>3</sup>/s (501 m<sup>3</sup>/s) Feb. 7, 1937, gage height, 8.20 ft (2.499 m), datum then in use, from rating curve extended above 2,000 ft<sup>3</sup>/s (56.6 m<sup>3</sup>/s) on basis of velocity-area study; no flow parts of each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 26 ft<sup>3</sup>/s (0.74 m<sup>3</sup>/s) Jan. 7, gage height, 3.10 ft (0.945 m); no flow most of year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	.74								
2	0	0	0	0								
3	0	0	0	3.6								
4	0	0	0	.27								
5	0	0	0	.53								
6	0	0	0	1.1								
7	0	0	0	19								
8	0	0	0	17								
9	0	0	0	1.9								
10	0	0	0	0								
11	0	0	0	0								
12	0	.27	0	0								
13	0	.32	0	0								
14	0	0	0	0								
15	0	0	0	0								
16	0	0	0	0								
17	0	0	0	0								
18	0	0	0	0								
19	0	0	0	0								
20	0	0	0	0								
21	0	0	0	0								
22	.79	0	0	0								
23	.92	0	0	0								
24	0	0	0	0								
25	0	0	0	0								
26	0	0	0	0								
27	0	0	0	0								
28	0	0	0	0								
29	0	0	0	0	---							
30	0	0	0	0	---							
31	0	---	1.8	0	---		---		---			---
TOTAL	1.71	.59	1.8	44.14	0	0	0	0	0	0	0	0
MEAN	.055	.020	.058	1.42	0	0	0	0	0	0	0	0
MAX	.92	.32	1.8	19	0	0	0	0	0	0	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	3.4	1.2	3.6	88	0	0	0	0	0	0	0	0
CAL YR 1976	TOTAL	338.59	MEAN .93	MAX 117	MIN 0	AC-FT 672						
WTR YR 1977	TOTAL	48.24	MEAN .13	MAX 19	MIN 0	AC-FT 96						

## TIJUANA RIVER BASIN

11013500 TIJUANA RIVER NEAR NESTOR, CA--Continued

## WATER-QUALITY RECORDS

## PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: October 1969 to September 1972.

SEDIMENT RECORDS: October 1969 to current year.

REMARKS.--Sediment table omitted for no flow periods April to September.

## EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 4,190 mg/l Dec. 21, 1970; minimum daily mean, no flow for many days each year.

SEDIMENT DISCHARGE: Maximum daily, 414 tons (376 tonnes) Feb. 9, 1976; minimum daily, 0 tons on many days each year.

## EXTREMES FOR CURRENT YEAR.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,260 mg/l Jan. 3; minimum daily mean, no flow for many days.

SEDIMENT DISCHARGE: Maximum daily, 60 tons (54 tonnes) Jan. 7; minimum daily, 0 tons on many days.

## SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	OCTOBER			NOVEMBER			DECEMBER		
	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0
12	0	0	0	.27	252	.62	0	0	0
13	0	0	0	.32	203	.38	0	0	0
14	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0
22	.79	437	2.3	0	0	0	0	0	0
23	.92	295	1.6	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0
31	0	0	0	---	---	---	1.8	781	15
TOTAL	1.71	---	3.90	.59	---	1.00	1.80	---	15.00

11013500 TIJUANA RIVER NEAR NESTOR, CA--Continued

## SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	JANUARY			FEBRUARY			MARCH		
	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	.74	796	2.7						
2	0	0	0						
3	3.6	1260	23						
4	.27	617	.59						
5	.53	328	.59						
6	1.1	295	1.2						
7	19	1040	60						
8	17	421	21						
9	1.9	206	1.4						
10	0	0	0						
11	0	0	0						
12	0	0	0						
13	0	0	0						
14	0	0	0						
15	0	0	0						
16	0	0	0						
17	0	0	0						
18	0	0	0						
19	0	0	0						
20	0	0	0						
21	0	0	0						
22	0	0	0						
23	0	0	0						
24	0	0	0						
25	0	0	0						
26	0	0	0						
27	0	0	0						
28	0	0	0						
29	0	0	0						
30	0	0	0						
31	0	0	0						
TOTAL	44.14	---	110.48	0	0	0	0	0	0
YEAR	48.24		130.38						

## PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	TEMPERATURE (DEG C)	INSTANTANEOUS DISCHARGE (CFS)	SUSPENDED SEDIMENT (MG/L)	SUSPENDED SEDIMENT DISCHARGE (T/DAY)	SUS. SED. FALL DIAM.	SUS. SED. FALL DIAM.	SUS. SED. FALL DIAM.	SUS. SED. FALL DIAM.	SUS. SED. FALL DIAM.
						% FINER THAN .002 MM	% FINER THAN .004 MM	% FINER THAN .008 MM	% FINER THAN .016 MM	% FINER THAN .031 MM
JAN										
03...	1345	17.0	3.6	2190	21	92	99	99	99	100

## OTAY RIVER BASIN

11014000 JAMUL CREEK NEAR JAMUL, CA

LOCATION.--Lat 32°38'15", long 116°53'00", in NE¼ sec.4, T.18 S., R.1 E., San Diego County, on right bank 300 ft (91 m) upstream from Otay Road crossing at upper end of Lower Otay Reservoir, 1.4 mi (2.3 km) downstream from Dulzura Creek, and 5.5 mi (8.8 km) south of Jamul.

DRAINAGE AREA.--70.2 mi<sup>2</sup> (181.8 km<sup>2</sup>).

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

GAGE.--Water-stage recorder and broad-crested weir control with low-water venturi-type flume. Datum of gage is 511.64 ft (155.948 m) above mean sea level. Prior to Oct. 1, 1951, at datum 1.00 ft (0.305 m) higher.

REMARKS.--Records poor. No regulation above station. Water diverted from Cottonwood Creek (station 11012000) by Dulzura conduit discharges into Jamul Creek via Dulzura Creek and is included in discharge for this station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,000 ft<sup>3</sup>/s (113 m<sup>3</sup>/s) Dec. 1, 1947, gage height, 6.42 ft (1.957 m), present datum, from rating curve extended above 1,200 ft<sup>3</sup>/s (34.0 m<sup>3</sup>/s); no flow at times in some years.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 100 ft<sup>3</sup>/s (2.83 m<sup>3</sup>/s) and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)
Oct. 22	Unknown	*2820 79.9	5.63 1.716
Nov. 12	1415	761 21.6	3.69 1.125

Minimum daily discharge, no flow during many months.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	.08	.10	.05	.01	.05	0			0	
2	0	0	.08	.10	.04	.01	.05	0			0	
3	0	0	.08	4.6	.04	.01	.04	0			0	
4	0	0	.07	.16	.03	.01	.04	0			0	
5	0	0	.07	.26	.03	.01	.04	0			0	
6	0	0	.07	6.7	.03	0	.03	0			0	
7	0	0	.07	.52	.03	0	.03	0			0	
8	0	0	.06	.23	.02	0	.03	0			0	
9	0	0	.06	.15	.02	0	.02	6.2			0	
10	0	0	.06	.12	.02	0	.02	.10			0	
11	0	.06	.05	.10	.02	0	.02	.07			0	
12	0	50	.05	.08	.02	0	.02	.05			0	
13	0	1.0	.05	.07	.02	0	.02	.04			0	
14	0	.50	.04	.06	.02	0	.02	.03			0	
15	0	.25	.04	.05	.02	0	.01	.03			0	
16	0	.20	.04	.05	.02	0	.01	.02			0	
17	0	.16	.04	.05	.01	0	.01	.02			.49	
18	0	.14	.03	.10	.01	0	.01	.02			.10	
19	0	.13	.03	.10	.01	0	.01	.02			.05	
20	0	.12	.03	.10	.01	0	.01	.02			.03	
21	0	.12	.02	.11	.01	0	.01	.01			.02	
22	60	.11	.02	.13	.01	0	0	.01			.01	
23	.10	.11	.02	.13	.01	0	0	.01			.01	
24	.04	.10	.02	.11	.01	0	0	.01			.01	
25	0	.10	.01	.11	.01	4.9	0	.01			0	
26	0	.10	.01	.12	.01	.26	0	.01			0	
27	0	.10	.01	.10	.01	.15	0	.01			0	
28	0	.09	.01	.09	.01	.10	0	.01			0	
29	0	.09	.01	.08	---	.09	0	.01			0	
30	0	.09	.01	.07	---	.07	0	0			0	
31	0	---	.10	.06	---	.06	---	0	---		0	---
TOTAL	60.14	53.57	1.34	14.81	.55	5.68	.50	6.71	0	0	.72	0
MEAN	1.94	1.79	.043	.48	.020	.18	.017	.22	0	0	.023	0
MAX	60	50	.10	6.7	.05	4.9	.05	6.2	0	0	.49	0
MIN	0	0	.01	.05	.01	0	0	0	0	0	0	0
AC-FT	119	106	2.7	29	1.1	11	1.0	13	0	0	1.4	0

CAL YR 1976 TOTAL 785.42 MEAN 2.15 MAX 74 MIN 0 AC-FT 1560  
WTR YR 1977 TOTAL 144.02 MEAN .39 MAX 60 MIN 0 AC-FT 286

## 11014550 LOWER OTAY RESERVOIR NEAR CHULA VISTA, CA

LOCATION.--Lat 32°36'35", long 116°55'35", in NW¼NW¼ sec.18, T.18 S., R.1 E., San Diego County, on upstream face 200 ft (61 m) from right end of Savage Dam on Otay River, and 9 mi (14 km) east of Chula Vista.

DRAINAGE AREA.--99.0 mi<sup>2</sup> (256.4 km<sup>2</sup>).

PERIOD OF RECORD.--October 1945 to September 1959 published with Otay River at Savage Dam (station 11014500). October 1972 to current year. Records of monthend gage heights October 1936 to September 1945, in files of San Diego County Department of Sanitation and Flood Control.

GAGE.--Water-stage recorder. Datum of gage is 397.20 ft (121.067 m) above mean sea level; gage readings have been reduced to elevations above mean sea level. Prior to Oct. 1, 1972, nonrecording gage at different site at datum 50.00 ft (15.240 m) lower.

REMARKS.--Reservoir is formed by gravity section cyclopean concrete and masonry dam, built in 1919. Capacity from Geological Survey table dated Apr. 3, 1956. Maximum capacity at top of spillway gates, 56,520 acre-ft (69.7 hm<sup>3</sup>), elevation, 490.70 ft (149.565 m). Capacity at permanent spillway level, 49,510 acre-ft (61.0 hm<sup>3</sup>), elevation, 484.70 ft (147.737 m). Dead storage below lowest outlet, 1,150 acre-ft (1.42 hm<sup>3</sup>), elevation, 395.05 ft (120.411 m). Dulzura conduit carries water from Barrett Reservoir on Cottonwood Creek to Dulzura Creek, where water is carried to the reservoir by Jamul Creek (11014000). Reservoir storage includes supplemental Colorado River water. Small diversions for local use near reservoir. Water used for municipal supply by city of San Diego.

COOPERATION.--Gage heights were furnished by San Diego County Department of Sanitation and Flood Control.

EXTREMES FOR PERIOD OF RECORD (1945-59 AND SINCE 1972).--Maximum contents, 48,200 acre-ft (59.4 hm<sup>3</sup>) Oct. 31, 1945, elevation, 493.87 ft (150.532 m); minimum 3,160 acre-ft (3.90 hm<sup>3</sup>) Dec. 31, 1951, elevation, 407.56 ft (124.224 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 10,370 acre-ft (12.8 hm<sup>3</sup>) June 8, elevation, 430.66 ft (131.265 m); minimum observed, 6,400 acre-ft (7.89 hm<sup>3</sup>) Oct. 19-20, elevation, 419.84 ft (127.967 m).

## MONTHEND ELEVATION AND CONTENTS, AT 0800, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30.....	420.11	6490	--
Oct. 31.....	421.06	6800	+310
Nov. 30.....	421.60	6980	+180
Dec. 31.....	422.12	7160	+180
CAL YR 1976.....	--	--	+2220
Jan. 31.....	423.10	7490	+330
Feb. 28.....	424.02	7820	+330
Mar. 31.....	427.03	8920	+1100
Apr. 30.....	430.03	10110	+1190
May 31.....	430.59	10340	+230
June 30.....	430.49	10300	-40
July 31.....	430.46	10280	-20
Aug. 31.....	427.28	9020	-1260
Sept. 30.....	422.48	7280	-1740
WTR YR 1977	--	--	+790

## SWEETWATER RIVER BASIN

11015000 SWEETWATER RIVER NEAR DESCANSO, CA

LOCATION.--Lat 32°50'05", long 116°37'20", in NW¼SE¼ sec.25, T.15 S., R.3 E., San Diego County, near right bank at Los Terrenitos Road bridge (revised), 0.7 mi (1.1 km) downstream from unnamed tributary, and 1.3 mi (2.1 km) south of Descanso.

DRAINAGE AREA.--45.4 mi<sup>2</sup> (117.6 km<sup>2</sup>).

PERIOD OF RECORD.--October 1905 to September 1927, October 1956 to current year. Monthly discharge only for October to December 1905, January to February 1916, February, March, June to September 1927, published in WSP 1315-B. Combined records of river and diversion, October 1956 to current year.

GAGE.--Water-stage recorder on river; water-stage recorder on concrete diversion. Datum of river gage is 3,269.24 ft (996.464 m) above mean sea level. Prior to June 25, 1927, nonrecording gages at several sites within 0.1 mi (0.2 km) upstream at various datums. Diversion gage at different datum.

REMARKS.--Records good. No regulation above station. Sweetwater River diversion diverts 0.3 mi (0.5 km) above station for irrigation below. For records of combined discharge of river and diversion, see following page.

AVERAGE DISCHARGE.--Creek only: 43 years, 9.62 ft<sup>3</sup>/s (0.272 m<sup>3</sup>/s), 6,970 acre-ft/yr (8.59 hm<sup>3</sup>/yr).  
Combined creek and diversion: 21 years, 3.42 ft<sup>3</sup>/s (0.097 m<sup>3</sup>/s), 2,480 acre-ft/yr (3.06 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Creek only: Maximum discharge, 11,200 ft<sup>3</sup>/s (317 m<sup>3</sup>/s) Feb. 16, 1927, gage height, 13.2 ft (4.023 m), from floodmarks, site and datum then in use, on basis of slope-area measurement of maximum flow; no flow many days in most years.  
Combined creek and diversion: Maximum discharge, 3,890 ft<sup>3</sup>/s (110 m<sup>3</sup>/s) Dec. 6, 1966; no flow many days in each year.

EXTREMES FOR CURRENT YEAR.--Creek only: Maximum discharge, 43 ft<sup>3</sup>/s (1.22 m<sup>3</sup>/s) Jan. 3, gage height, 4.15 ft (1.265 m), no peak above base of 100 ft<sup>3</sup>/s (2.83 m<sup>3</sup>/s); no flow many days from July to September.  
Combined creek and diversion: Maximum discharge, 43 ft<sup>3</sup>/s (1.22 m<sup>3</sup>/s) Jan. 3; no flow many days from July to September.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.06	.22	.22	.95	.33	.33	.47	.16	.25		0	
2	.10	.16	.22	.65	.33	.33	.72	.19	.22		0	
3	.12	.16	.22	7.2	.29	.33	.58	.16	.19		0	
4	.10	.16	.22	1.4	.29	.33	.42	.16	.14		0	
5	.06	.14	.22	1.6	.29	.33	.37	.16	.12		0	
6	.06	.16	.22	4.2	.29	.33	.33	.22	.12		0	
7	.06	.16	.22	2.9	.29	.33	.33	.25	.14		0	
8	.05	.14	.22	2.0	.29	.33	.37	.57	.12		0	
9	.03	.16	.25	1.2	.33	.33	.37	3.6	.12		0	
10	.04	.16	.29	.95	.33	.33	.37	1.0	.14		0	
11	.05	.19	.24	.79	.33	.33	.42	.65	.12		0	
12	.05	.47	.22	.65	.33	.33	.33	.65	.12		0	
13	.05	.29	.22	.58	.33	.37	.29	.72	.12		0	
14	.05	.25	.25	.53	.33	.37	.29	.53	.10		0	
15	.05	.29	.22	.42	.33	.33	.25	.47	.08		0	
16	.05	.29	.22	.37	.33	.72	.22	.42	.06		.03	
17	.05	.29	.22	.37	.33	1.7	.25	.37	.05		.02	
18	.10	.29	.19	.33	.33	.65	.25	.29	.04		0	
19	.10	.33	.22	.33	.33	.53	.25	.33	.03		0	
20	.08	.33	.22	.33	.33	.47	.22	.29	.03		0	
21	.12	.33	.22	.37	.33	.42	.19	.25	.03		0	
22	.45	.33	.22	.37	.37	.37	.19	.25	.02		0	
23	.79	.29	.22	.33	.47	.37	.19	.29	.02		0	
24	.53	.25	.25	.33	.86	.42	.16	.79	.02		0	
25	.33	.25	.22	.29	.65	2.8	.16	.65	.02		0	
26	.29	.29	.22	.33	.47	1.2	.16	.47	.02		0	
27	.22	.33	.22	.33	.42	.79	.19	.37	.02		0	
28	.22	.29	.25	.33	.37	.65	.19	.42	.01		0	
29	.22	.25	.25	.47	---	.53	.16	.37	0		0	
30	.22	.25	.87	.33	---	.47	.16	.33	0		0	
31	.22	---	2.9	.33	---	.47	---	.25	---		0	---
TOTAL	4.92	7.50	10.41	31.56	10.30	17.59	8.85	15.63	2.47	0	.05	0
MEAN	.16	.25	.34	1.02	.37	.57	.30	.50	.082	0	.002	0
MAX	.79	.47	2.9	7.2	.86	2.8	.72	3.6	.25	0	.03	0
MIN	.03	.14	.19	.29	.29	.33	.16	.16	0	0	0	0
AC-FT	9.8	15	21	63	20	35	18	31	4.9	0	.10	0

CAL YR 1976 TOTAL 318.73 MEAN .87 MAX 36 MIN 0 AC-FT 632  
WTR YR 1977 TOTAL 109.28 MEAN .30 MAX 7.2 MIN 0 AC-FT 217

11015000 SWEETWATER RIVER NEAR DESCANSO, CA--Continued

COMBINED DISCHARGE, IN CUBIC FEET PER SECOND, OF SWEETWATER RIVER AND  
SWEETWATER DIVERSION NEAR DESCANSO, CA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.17	.25	.22	.95	.33	.33	.47	.16	.25		0	
2	.20	.18	.22	.65	.33	.33	.72	.19	.22		0	
3	.22	.17	.22	7.2	.29	.33	.58	.16	.19		0	
4	.19	.17	.22	1.4	.29	.33	.42	.16	.14		0	
5	.15	.14	.22	1.6	.29	.33	.37	.16	.12		0	
6	.14	.16	.22	4.2	.29	.33	.33	.22	.12		0	
7	.13	.16	.22	2.9	.29	.33	.33	.25	.14		0	
8	.09	.14	.22	2.0	.29	.33	.37	.57	.12		0	
9	.06	.16	.25	1.2	.33	.33	.37	3.6	.12		0	
10	.06	.16	.29	.95	.33	.33	.37	1.0	.14		0	
11	.07	.19	.29	.79	.33	.33	.42	.65	.12		0	
12	.06	.63	.22	.65	.33	.33	.33	.65	.12		0	
13	.05	.48	.22	.58	.33	.37	.29	.72	.12		0	
14	.05	.42	.25	.53	.33	.37	.29	.53	.10		0	
15	.05	.44	.22	.42	.33	.33	.25	.47	.08		0	
16	.05	.33	.22	.37	.33	.72	.22	.42	.06		.03	
17	.05	.30	.22	.37	.33	1.7	.25	.37	.05		.02	
18	.10	.29	.19	.33	.33	.65	.25	.29	.04		0	
19	.10	.33	.22	.33	.33	.53	.25	.33	.03		0	
20	.08	.33	.22	.33	.33	.47	.22	.29	.03		0	
21	.12	.33	.22	.37	.33	.42	.19	.25	.03		0	
22	.46	.33	.22	.37	.37	.37	.19	.25	.02		0	
23	.87	.29	.22	.33	.47	.37	.19	.29	.02		0	
24	.64	.25	.25	.33	.86	.42	.16	.79	.02		0	
25	.39	.25	.22	.29	.65	2.8	.16	.65	.02		0	
26	.34	.29	.22	.33	.47	1.2	.16	.47	.02		0	
27	.26	.33	.22	.33	.42	.79	.19	.37	.02		0	
28	.26	.29	.25	.33	.37	.65	.19	.42	.01		0	
29	.25	.25	.25	.47	---	.53	.16	.37	0		0	
30	.25	.25	.87	.33	---	.47	.16	.33	0		0	
31	.25	---	2.9	.33	---	.47	---	.25	---		0	---
TOTAL	6.16	8.29	10.41	31.56	10.30	17.59	8.85	15.63	2.47	0	.05	0
MEAN	.20	.28	.34	1.02	.37	.57	.30	.50	.082	0	.002	0
MAX	.87	.63	2.9	7.2	.86	2.8	.72	3.6	.25	0	.03	0
MIN	.05	.14	.19	.29	.29	.33	.16	.16	0	0	0	0
AC-FT	12	16	21	63	20	35	18	31	4.9	0	.10	0
CAL YR 1976	TOTAL	379.42	MEAN	1.04	MAX	36	MIN	0	AC-FT	753		
WTR YR 1977	TOTAL	111.31	MEAN	.31	MAX	7.2	MIN	0	AC-FT	221		

## SWEETWATER RIVER BASIN

## 11016550 SWEETWATER RESERVOIR NEAR NATIONAL CITY, CA

LOCATION.--Lat 32°41'20", long 117°00'35", San Diego County, in La Nacion Grant, at Sweetwater Dam on Sweetwater River, 6 mi (10 km) east of National City, and 8 mi (13 km) upstream from mouth.

DRAINAGE AREA.--182 mi<sup>2</sup> (471 km<sup>2</sup>).

PERIOD OF RECORD.--October 1943 to September 1966 published with Sweetwater River at Sweetwater Dam (station 11016500). October 1972 to current year. Records of monthend gage heights October 1891 to September 1943, in files of San Diego County Department of Sanitation and Flood Control.

GAGE.--Nonrecording gage. Datum of gage is 149.28 ft (45.501 m) above mean sea level (levels by San Diego County); gage readings have been reduced to elevations above mean sea level. Oct. 1, 1972, to Mar. 6, 1975, water-stage recorder at same site and datum. Prior to Oct. 1, 1972, nonrecording gage at same site at datum 0.16 ft (0.049 m) lower.

REMARKS.--Reservoir is formed by concrete-gravity dam. Dam completed Apr. 7, 1888, to elevation 223.82 ft (68.220 m), raised to elevation 228.82 ft (69.744 m) in 1895, and raised to elevation 243.82 ft (74.316 m) in 1911. In 1939 the spillway was completed at its present elevation. Capacity table dated December 1947. Capacity of reservoir at spillway level, 27,690 acre-ft (34.1 hm<sup>3</sup>), elevation, 238.82 ft (72.792 m). Dead storage below lowest outlet, 4.0 acre-ft (4,930 m<sup>3</sup>), elevation, 168.82 ft (51.456 m). Diversions for irrigation. Regulation at Loveland Reservoir. Water is released by California-American Water Co. as required for irrigation and domestic use in Chula Vista, National City, and contiguous areas.

COOPERATION.--Gage heights were furnished by Sweetwater Authority.

EXTREMES FOR PERIOD OF RECORD (1943-66 AND SINCE 1972).--Maximum contents observed, 20,900 acre-ft (25.8 hm<sup>3</sup>) Oct. 31, 1943, elevation, 231.24 ft (70.482 m); minimum observed, 1,740 acre-ft (2.15 hm<sup>3</sup>) Nov. 1, 1949, elevation, 188.48 ft (57.449 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 7,310 acre-ft (9.01 hm<sup>3</sup>) Oct. 24, elevation, 207.46 ft (63.234 m); minimum observed, 4,850 acre-ft (5.98 hm<sup>3</sup>) Sept. 30, elevation, 200.67 ft (61.164 m).

## MONTHEND ELEVATION AND CONTENTS, AT 0800, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30.....	207.38	7280	--
Oct. 31.....	207.22	7210	-70
Nov. 30.....	206.26	6810	-400
Dec. 31.....	205.68	6610	-200
CAL YR 1976.....	--	--	+3810
Jan. 31.....	206.60	6970	+360
Feb. 28.....	205.92	6700	-270
Mar. 31.....	205.97	6720	+20
Apr. 30.....	205.15	6410	-310
May 31.....	205.27	6450	+40
June 30.....	204.73	6250	-200
July 31.....	203.16	5690	-540
Aug. 31.....	202.55	5480	-210
Sept. 30.....	200.67	4850	-630
WTR YR 1977.....	--	--	-2410



## 11020600 EL CAPITAN RESERVOIR NEAR LAKESIDE, CA

LOCATION.--Lat 32°53'00", long 116°48'25", in NE¼SE¼NE¼ sec.7, T.15 S., R.2 E., San Diego County, on outlet tower of El Capitan Dam on San Diego River, 7 mi (11 km) east of Lakeside.

DRAINAGE AREA.--188 mi<sup>2</sup> (487 km<sup>2</sup>).

PERIOD OF RECORD.--October 1945 to September 1966 published with San Diego River at El Capitan Dam (station 11020500), October 1972 to current year. October 1936 to September 1945 not equivalent owing to exclusion of greater part of flow released from Cuyamaca Reservoir.

GAGE.--Water-stage recorder. Datum of gage is 663.0 ft (202.08 m) above mean sea level; gage readings have been converted to elevations above mean sea level. Prior to Oct. 1, 1972, nonrecording gage at same site at datum 110.0 ft (33.53 m) lower.

REMARKS.--Reservoir is formed by hydraulic fill-rock embankment, completed in 1935. Capacity table dated Mar. 29, 1956. Capacity of reservoir at spillway level, 112,810 acre-ft (139 hm<sup>3</sup>), elevation, 750.00 ft (228.600 m). Dead storage below lowest outlet, 59.2 acre-ft (73,000 m<sup>3</sup>), elevation, 574.00 ft (174.955 m). Reservoir storage includes supplemental Colorado River water. No significant diversion above reservoir. Flow partly regulated by Cuyamaca Reservoir. Water is released as required for municipal use and irrigation.

COOPERATION.--Records were furnished by San Diego County, Department of Sanitation and Flood Control.

EXTREMES FOR PERIOD OF RECORD (1945-66 AND SINCE 1972).--Maximum contents, 62,400 acre-ft (76.9 hm<sup>3</sup>) Oct. 1, 1945, elevation, 708.75 ft (216.027 m); minimum, 2,252 acre-ft (2.78 hm<sup>3</sup>) May 1, 1957, elevation, 606.28 ft (184.794 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 27,460 acre-ft (33.9 hm<sup>3</sup>) June 15-16, elevation, 671.16 ft (204.570 m); minimum observed, 8,660 acre-ft (10.7 hm<sup>3</sup>) Dec. 7-13, elevation, 632.58 ft (192.810 m).

## MONTHEND ELEVATION AND CONTENTS, AT 0800, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30.....	634.06	9160	--
Oct. 31.....	633.32	8910	-250
Nov. 30.....	632.66	8690	-220
Dec. 31.....	638.90	10890	+2200
CAL YR 1976.....	--	--	+180
Jan. 31.....	648.22	14710	+3820
Feb. 28.....	652.94	16940	+2230
Mar. 31.....	659.44	20340	+3400
Apr. 30.....	663.30	22540	+2200
May 31.....	669.00	26040	+3500
June 30.....	669.32	26250	+210
July 31.....	662.58	22120	-4120
Aug. 31.....	655.88	18440	-3680
Sept. 30.....	649.48	15290	-3150
WTR YR 1977.....	--	--	+6130

## SAN DIEGO RIVER BASIN

## 11022100 SAN VICENTE RESERVOIR NEAR LAKESIDE, CA

LOCATION.--Lat 32°54'45", long 116°55'25", in SE¼SW¼NW¼ sec.31, T.14 S., R.1 E., San Diego County, near center of upstream face of San Vicente Dam on San Vicente Creek, 3.6 mi (5.8 km) north of Lakeside.

DRAINAGE AREA.--74.2 mi<sup>2</sup> (192.2 km<sup>2</sup>).

PERIOD OF RECORD.--October 1946 to September 1961 published with San Vicente Creek at San Vicente Dam, at Foster (station 11022000). October 1972 to current year.

GAGE.--Water-stage recorder. Datum of gage is 560.0 ft (170.69 m) above mean sea level; gage readings have been converted to elevations above mean sea level. October 1946 to September 1961, nonrecording gage at same site at datum 100 ft (30.5 m) lower.

REMARKS.--Reservoir is formed by concrete-gravity dam, constructed in 1941-43 by city of San Diego; storage began during construction period. Capacity table is dated Feb. 18, 1944. Capacity of reservoir at spillway level, 90,230 acre-ft (111 hm<sup>3</sup>), elevation, 650 ft (198.1 m). Dead storage below lowest outlet, 350 acre-ft (432,000 m<sup>3</sup>), elevation, 493.0 ft (150.27 m). Reservoir storage includes supplemental water from the San Diego River, Santa Ysabel Creek, and Colorado River basins. No diversion above reservoir. Water is released as required for municipal use.

COOPERATION.--Gage heights were furnished by San Diego County, Department of Sanitation and Flood Control.

EXTREMES FOR PERIOD OF RECORD (1946-61 AND SINCE 1972).--Maximum contents, 83,980 acre-ft (104 hm<sup>3</sup>) July 31, 1973, elevation, 664.07 ft (202.409 m); minimum, 12,390 acre-ft (15.3 hm<sup>3</sup>) Nov. 1, 1947, elevation, 549.22 ft (167.402 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 68,700 acre-ft (84.7 hm<sup>3</sup>) June 11, elevation, 628.72 ft (191.634 m); minimum observed, 55,920 acre-ft (68.9 hm<sup>3</sup>) Nov. 12, elevation, 614.72 ft (187.367 m).

## MONTHEND ELEVATION AND CONTENTS, AT 0800, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30.....	617.02	57940	--
Oct. 31.....	615.67	56750	-1190
Nov. 30.....	615.25	56390	-360
Dec. 31.....	618.52	59280	+2890
CAL YR 1976.....	--	--	-4620
Jan. 31.....	621.90	62340	+3060
Feb. 28.....	622.79	63150	+810
Mar. 31.....	625.82	65960	+2810
Apr. 30.....	626.14	66260	+300
May 31.....	628.61	68580	+2320
June 30.....	628.12	68130	-450
July 31.....	626.56	66650	-1480
Aug. 31.....	625.38	65550	-1100
Sept. 30.....	622.44	62830	-2720
WTR YR 1977.....	--	--	+4890

## 11022500 SAN DIEGO RIVER NEAR SANTEE, CA

LOCATION.--Lat 32°49'29", long 117°03'17", in Ex Mission San Diego Grant, San Diego County, on right bank in Mission Gorge, 0.2 mi (0.3 km) upstream from left tributary, 6 mi (10 km) west of Santee, and 18 mi (29 km) downstream from El Capitan Reservoir.

DRAINAGE AREA.--377 mi<sup>2</sup> (976 km<sup>2</sup>).

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1912 to December 1915, March 1916 to current year. Monthly discharge only for some periods and yearly estimates only for 1924-25, published in WSP 1315-B.

GAGE.--Water-stage recorder. Altitude of gage is 180 ft (54.9 m), from topographic map. Prior to Nov. 10, 1920, nonrecording gage at site 1.5 mi (2.4 km) upstream at different datum. Nov. 10, 1920, to Dec. 1, 1954, water-stage recorder at present site at datum 1.0 ft (0.30 m) higher.

REMARKS.--Records fair. Flow regulated by Cuyamaca Reservoir, capacity, 11,540 acre-ft (46.7 hm<sup>3</sup>), El Capitan Reservoir (station 11020500), and San Vicente Reservoir (station 11022000). Diversions by city of San Diego for municipal supply and by Helix Irrigation District. AVERAGE DISCHARGE represents flow to ocean during period of record, regardless of upstream development.

AVERAGE DISCHARGE.--64 years (water years 1913-15, 1917-77), 21.7 ft<sup>3</sup>/s (0.615 m<sup>3</sup>/s), 15,720 acre-ft/yr (19.4 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 70,200 ft<sup>3</sup>/s (1,990 m<sup>3</sup>/s) Jan. 27, 1916, based on slope-conveyance computation of peak flow, gage height, 25.1 ft (7.651 m), from floodmarks, site and datum then in use; no flow at times in some years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge 861 ft<sup>3</sup>/s (24.4 m<sup>3</sup>/s) Jan. 3, gage height, 6.60 ft (2.012 m), from rating based on slope-area computation of 1,280 ft<sup>3</sup>/s (36.2 m<sup>3</sup>/s); maximum gage height, 6.81 ft (2.076 m) May 9, (backwater from foliage in channel); no flow Aug. 3-16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.7	1.4	2.6	50	5.7	2.7	4.2	1.2	1.8	.29	.01	.81
2	1.8	1.3	3.4	21	5.3	2.4	3.6	1.1	1.5	.28	.01	.78
3	2.7	1.2	3.5	204	4.7	2.3	3.8	1.2	1.4	.27	0	.74
4	2.4	1.1	3.2	40	4.6	2.6	3.3	1.3	1.3	.29	0	.72
5	2.2	.98	3.0	22	4.5	2.7	2.7	1.3	1.3	.28	0	.70
6	1.9	.94	2.9	144	4.4	2.7	2.3	1.3	1.5	.25	0	.64
7	1.8	.91	2.8	101	4.2	2.7	2.1	1.4	1.5	.24	0	.58
8	1.5	.89	2.6	36	4.0	2.6	1.7	3.2	1.4	.21	0	.54
9	1.3	.94	2.7	22	4.0	2.4	1.5	232	1.3	.24	0	.49
10	1.2	.95	2.7	16	4.0	2.6	1.4	40	1.1	.22	0	.46
11	1.1	.97	2.8	12	3.7	2.6	1.3	18	1.1	.21	0	.45
12	1.2	33	2.7	10	3.1	2.6	1.2	10	1.0	.19	0	.44
13	1.3	24	2.6	9.1	2.9	2.7	1.2	11	1.0	.19	0	.42
14	1.3	9.5	2.7	7.9	2.9	2.8	1.2	7.5	1.0	.17	0	.39
15	1.2	6.5	2.7	6.9	3.0	2.8	1.2	5.3	.97	.16	0	.38
16	1.1	5.6	2.8	6.3	2.9	3.1	1.2	4.0	.95	.15	0	.38
17	1.1	4.2	2.9	6.0	2.7	18	1.2	3.3	.94	.15	130	.37
18	1.0	3.4	3.0	5.5	2.5	16	1.1	3.1	.91	.13	28	.35
19	.97	3.5	3.0	5.1	2.5	11	1.2	2.8	.73	.13	11	.34
20	.98	3.1	2.8	5.0	2.7	7.7	1.2	2.6	.63	.12	5.5	.33
21	1.1	2.8	2.7	5.0	2.8	6.3	1.2	2.3	.49	.11	3.5	.33
22	16	2.5	2.6	4.9	2.8	4.4	1.2	2.2	.45	.11	2.7	.33
23	49	2.4	2.6	4.7	3.0	3.9	1.1	2.1	.41	.11	2.2	.32
24	17	2.2	2.6	4.6	3.3	3.6	1.1	13	.38	.11	1.7	.30
25	8.5	2.0	2.5	4.6	6.1	26	1.1	15	.35	.09	1.5	.28
26	5.4	1.9	2.3	4.8	5.0	33	1.2	7.2	.33	.07	1.3	.29
27	3.8	2.6	2.2	5.0	4.0	17	1.3	4.2	.31	.06	1.2	.29
28	2.9	3.5	2.0	5.0	3.1	11	1.3	3.1	.29	.05	1.1	.29
29	2.2	3.1	1.8	7.5	---	7.7	1.1	2.4	.28	.04	.96	.29
30	1.8	2.8	3.9	8.5	---	6.2	1.2	2.2	.27	.03	.92	.29
31	1.6	---	152	6.5	---	4.8	---	2.1	---	.02	.87	---
TOTAL	139.05	130.18	234.6	790.9	104.4	218.9	50.4	407.4	26.89	4.97	192.47	13.32
MEAN	4.49	4.34	7.57	25.5	3.73	7.06	1.68	13.1	.90	.16	6.21	.44
MAX	49	33	152	204	6.1	33	4.2	232	1.8	.29	130	.81
MIN	.97	.89	1.8	4.6	2.5	2.3	1.1	1.1	.27	.02	0	.28
AC-FT	276	258	465	1570	207	434	100	808	53	9.9	382	26
CAL YR 1976	TOTAL	3483.06	MEAN 9.52	MAX 354	MIN 0	AC-FT 6910						
WTR YR 1977	TOTAL	2313.48	MEAN 6.34	MAX 232	MIN 0	AC-FT 4590						

11022500 SAN DIEGO RIVER NEAR SANTEE, CA--Continued

## WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD. --

WATER TEMPERATURES: October 1970 to current year.

SEDIMENT RECORDS: October 1969 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD. --

SEDIMENT CONCENTRATIONS: Maximum daily mean, 512 mg/l Mar. 1, 1970; minimum daily mean, 0 mg/l on many days in July and August, 1976 and August, 1977.

SEDIMENT DISCHARGE: Maximum daily, 656 tons (595 tonnes) Dec. 4, 1974; minimum daily, 0 tons on many days in 1969, 1970, 1976 and 1977.

EXTREMES FOR CURRENT YEAR. --

SEDIMENT CONCENTRATIONS: Maximum daily mean, 330 mg/l Jan. 3; minimum daily mean, 0 mg/l on many days during August.

SEDIMENT DISCHARGE: Maximum daily, 308 tons (279 tonnes) Jan. 3; minimum daily, 0 tons many days during August.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
ONCE-DAILY

[illegible]

11022500 SAN DIEGO RIVER NEAR SANTEE, CA--Continued

## SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	OCTOBER			NOVEMBER			DECEMBER		
	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	1.7	10	.05	1.4	13	.05	2.6	8	.06
2	1.8	14	.07	1.3	12	.04	3.4	9	.08
3	2.7	20	.15	1.2	11	.04	3.5	10	.09
4	2.4	19	.12	1.1	9	.03	3.2	9	.08
5	2.2	18	.11	.98	8	.02	3.0	8	.06
6	1.9	17	.09	.94	6	.02	2.9	7	.05
7	1.8	16	.08	.91	5	.01	2.8	7	.05
8	1.5	16	.06	.89	4	.01	2.6	6	.04
9	1.3	15	.05	.94	4	.01	2.7	6	.04
10	1.2	15	.05	.95	4	.01	2.7	5	.04
11	1.1	14	.04	.97	4	.01	2.8	5	.04
12	1.2	16	.05	33	126	16	2.7	5	.04
13	1.3	18	.06	24	49	3.5	2.6	5	.04
14	1.3	21	.07	9.5	28	.73	2.7	5	.04
15	1.2	21	.07	6.5	23	.40	2.7	4	.03
16	1.1	21	.06	5.6	24	.36	2.8	4	.03
17	1.1	21	.06	4.2	26	.29	2.9	4	.03
18	1.0	21	.06	3.4	28	.26	3.0	4	.03
19	.97	21	.05	3.5	30	.28	3.0	4	.03
20	.98	20	.05	3.1	26	.22	2.8	4	.03
21	1.1	19	.06	2.8	23	.17	2.7	4	.03
22	16	104	13	2.5	21	.14	2.6	3	.02
23	49	183	27	2.4	19	.12	2.6	3	.02
24	17	68	3.4	2.2	17	.10	2.6	3	.02
25	8.5	42	.96	2.0	15	.08	2.5	3	.02
26	5.4	30	.44	1.9	14	.07	2.3	2	.01
27	3.8	23	.24	2.6	13	.09	2.2	2	.01
28	2.9	12	.09	3.5	11	.10	2.0	2	.01
29	2.2	13	.08	3.1	9	.08	1.8	2	.01
30	1.8	13	.06	2.8	9	.07	3.9	5	.20
31	1.6	14	.06	---	---	---	152	180	77
TOTAL	139.05	---	46.79	130.18	---	23.31	234.6	---	78.28

DAY	JANUARY			FEBRUARY			MARCH		
	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	50	88	12	5.7	16	.25	2.7	8	.06
2	21	62	3.6	5.3	10	.14	2.4	5	.03
3	204	330	308	4.7	6	.08	2.3	6	.04
4	40	102	12	4.6	4	.05	2.6	8	.06
5	22	40	2.4	4.5	4	.05	2.7	7	.05
6	144	158	95	4.4	4	.05	2.7	6	.04
7	101	105	33	4.2	4	.05	2.7	6	.04
8	36	44	4.3	4.0	4	.04	2.6	6	.04
9	22	22	1.3	4.0	4	.04	2.4	5	.03
10	16	20	.86	4.0	4	.04	2.6	10	.07
11	12	15	.49	3.7	4	.04	2.6	15	.11
12	10	12	.32	3.1	4	.03	2.6	20	.14
13	9.1	11	.27	2.9	4	.03	2.7	25	.18
14	7.9	10	.21	2.9	4	.03	2.8	30	.23
15	6.9	9	.17	3.0	4	.03	2.8	35	.26
16	6.3	8	.14	2.9	4	.03	3.1	48	.44
17	6.0	8	.13	2.7	4	.03	18	115	5.6
18	5.5	8	.12	2.5	4	.03	16	61	2.6
19	5.1	7	.10	2.5	4	.03	11	47	1.4
20	5.0	7	.09	2.7	4	.03	7.7	36	.75
21	5.0	7	.09	2.8	4	.03	6.3	32	.54
22	4.9	6	.08	2.8	4	.03	4.4	25	.30
23	4.7	6	.08	3.0	4	.03	3.9	23	.24
24	4.6	5	.06	3.3	8	.07	3.6	20	.19
25	4.6	5	.06	6.1	18	.30	26	85	7.0
26	4.8	4	.05	5.0	16	.22	33	95	9.1
27	5.0	4	.05	4.0	14	.15	17	59	2.7
28	5.0	4	.05	3.1	13	.11	11	44	1.3
29	7.5	4	.08	---	---	---	7.7	35	.73
30	8.5	20	.46	---	---	---	6.2	30	.50
31	6.5	18	.32	---	---	---	4.8	25	.32
TOTAL	790.9	---	475.88	104.4	---	2.04	218.9	---	35.09

## SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	APRIL			MAY			JUNE		
	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	4.2	23	.26	1.2	13	.04	1.8	23	.11
2	3.6	21	.20	1.1	13	.04	1.5	23	.09
3	3.8	21	.22	1.2	13	.04	1.4	27	.10
4	3.3	20	.18	1.3	13	.05	1.3	33	.12
5	2.7	18	.13	1.3	16	.06	1.3	37	.13
6	2.3	16	.10	1.3	16	.06	1.5	37	.15
7	2.1	15	.09	1.4	16	.06	1.5	37	.15
8	1.7	13	.06	3.2	21	.42	1.4	37	.14
9	1.5	12	.05	232	260	271	1.3	36	.13
10	1.4	11	.04	40	48	5.8	1.1	34	.10
11	1.3	11	.04	18	28	1.4	1.1	32	.10
12	1.2	10	.03	10	27	.73	1.0	30	.08
13	1.2	10	.03	11	26	.77	1.0	28	.08
14	1.2	9	.03	7.5	25	.51	1.0	26	.07
15	1.2	9	.03	5.3	24	.34	.97	35	.09
16	1.2	9	.03	4.0	23	.25	.95	45	.12
17	1.2	8	.03	3.3	22	.20	.94	54	.14
18	1.1	8	.02	3.1	21	.18	.91	54	.13
19	1.2	7	.02	2.8	20	.15	.73	52	.10
20	1.2	7	.02	2.6	19	.13	.63	50	.09
21	1.2	7	.02	2.3	18	.11	.49	48	.06
22	1.2	7	.02	2.2	17	.10	.45	46	.06
23	1.1	9	.03	2.1	16	.09	.41	48	.05
24	1.1	9	.03	13	43	2.1	.38	50	.05
25	1.1	10	.03	15	29	1.2	.35	52	.05
26	1.2	10	.03	7.2	26	.51	.33	55	.05
27	1.3	12	.04	4.2	25	.28	.31	50	.04
28	1.3	12	.04	3.1	25	.21	.29	45	.04
29	1.1	12	.04	2.4	24	.16	.28	40	.03
30	1.2	12	.04	2.2	24	.14	.27	34	.02
31	---	---	---	2.1	24	.14	---	---	---
TOTAL	50.4	---	1.93	407.4	---	287.27	26.89	---	2.67
DAY	JULY			AUGUST			SEPTEMBER		
	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	.29	34	.03	.01	12	0	.81	8	.02
2	.28	34	.03	.01	6	0	.78	8	.02
3	.27	34	.02	0	0	0	.74	8	.02
4	.29	34	.03	0	0	0	.72	8	.02
5	.28	32	.02	0	0	0	.70	7	.01
6	.25	30	.02	0	0	0	.64	7	.01
7	.24	30	.02	0	0	0	.58	7	.01
8	.21	30	.02	0	0	0	.54	7	.01
9	.24	30	.02	0	0	0	.49	6	.01
10	.22	30	.02	0	0	0	.46	6	.01
11	.21	25	.01	0	0	0	.45	6	.01
12	.19	25	.01	0	0	0	.44	6	.01
13	.19	25	.01	0	0	0	.42	6	.01
14	.17	25	.01	0	0	0	.39	6	.01
15	.16	25	.01	0	0	0	.38	6	.01
16	.15	25	.01	0	0	0	.38	6	.01
17	.15	25	.01	130	198	123	.37	6	.01
18	.13	20	.01	28	61	5.1	.35	6	.01
19	.13	20	.01	11	45	1.3	.34	6	.01
20	.12	20	.01	5.5	25	.37	.33	6	.01
21	.11	20	.01	3.5	22	.21	.33	6	.01
22	.11	20	.01	2.7	19	.14	.33	6	.01
23	.11	20	.01	2.2	16	.10	.32	6	.01
24	.11	20	.01	1.7	14	.06	.30	6	0
25	.09	15	0	1.5	12	.05	.28	6	0
26	.07	15	0	1.3	12	.04	.29	6	0
27	.06	15	0	1.2	10	.03	.29	6	0
28	.05	15	0	1.1	10	.03	.29	6	0
29	.04	15	0	.96	9	.02	.29	6	0
30	.03	15	0	.92	9	.02	.29	6	0
31	.02	13	0	.87	9	.02	---	---	---
TOTAL	4.97	---	.37	192.47	---	130.49	13.32	---	.27
YEAR	2313.48		1084.39						

## 11022500 SAN DIEGO RIVER NEAR SANTEE, CA--Continued

## PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	TEMPER- ATURE (DEG C)	INSTAN- TANEOUS DIS- CHARGE (CFS)	SUS- PENDE SEDIM- ENT (MG/L)	SUS- PENDE SEDIM- ENT (T/DAY)	SUS- PENDE SEDIM- ENT % FINER THAN .002 MM	SUS- PENDE SEDIM- ENT % FINER THAN .004 MM	SUS- PENDE SEDIM- ENT % FINER THAN .008 MM
OCT								
22...	1805	26.0	39	226	24	55	70	78
23...	1710	26.0	32	140	12	--	--	--
NOV								
12...	1610	25.0	73	190	37	78	90	94
JAN								
03...	1245	13.0	316	473	404	75	86	92
06...	1345	12.0	178	208	100	62	84	93
MAR								
16...	1245	13.0	3.0	48	.39	--	--	--
MAY								
09...	1205	16.0	190	211	108	--	--	--
09...	1350	16.5	163	159	70	--	--	--
09...	1540	--	158	149	64	--	--	--
10...	1155	17.0	39	43	4.5	--	--	--
10...	1315	18.0	36	34	3.3	--	--	--
24...	1630	20.0	27	65	4.7	--	--	--

DATE	SUS. SED. FALL DIAM. % FINER THAN .016 MM	SUS. SED. FALL DIAM. % FINER THAN .031 MM	SUS. SED. SIEVE DIAM. % FINER THAN .062 MM	SUS. SED. SIEVE DIAM. % FINER THAN .125 MM	SUS. SED. SIEVE DIAM. % FINER THAN .250 MM	SUS. SED. SIEVE DIAM. % FINER THAN .500 MM	SUS. SED. SIEVE DIAM. % FINER THAN 1.00 MM
OCT							
22...	85	88	90	95	99	100	--
23...	--	--	100	--	--	--	--
NOV							
12...	96	97	98	99	100	--	--
JAN							
03...	95	96	96	97	99	100	--
06...	97	97	98	99	100	--	--
MAR							
16...	--	--	93	97	100	--	--
MAY							
09...	--	--	94	95	96	100	--
09...	--	--	95	96	97	99	100
09...	--	--	94	95	96	100	--
10...	--	--	98	100	--	--	--
10...	--	--	97	99	100	--	--
24...	--	--	98	98	98	99	100

## LOS PENASQUITOS CREEK BASIN

11023325 BEELEER CREEK AT POMERADO ROAD NEAR POWAY, CA

LOCATION.--Lat 32°56'23", long 117°03'57", in SW¼NW¼SW¼ sec.23, T.14 S., R.2 W., San Diego County, on right downstream wingwall of bridge on Pomerado Road, 0.8 mi (1.3 km) upstream from Poway Creek and 1.7 mi (2.7 km) southwest of Poway Post Office.

DRAINAGE AREA.--5.46 mi<sup>2</sup> (14.14 km<sup>2</sup>).

PERIOD OF RECORD.--October 1976 to September 1977.

GAGE.--Water-stage recorder. Altitude of gage is 465 ft (142 m), from topographic map.

REMARKS.--Records fair. Flow partially regulated by several conservation reservoirs above station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4.7 ft<sup>3</sup>/s (0.13 m<sup>3</sup>/s) Jan. 3, gage height, 5.78 ft (1.762 m); no flow for much of each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4.7 ft<sup>3</sup>/s (0.13 m<sup>3</sup>/s) Jan. 3, gage height, 5.78 ft (1.762 m); no flow many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1				0	.03	0	.01	0	.01			
2				0	.03	0	.01	0	.01			
3				.20	.01	0	.01	0	.01			
4				.02	.01	0	.01	0	.01			
5				.01	.01	0	0	0	.01			
6				.10	.01	0	0	0	0			
7				.07	.01	0	0	0	0			
8				.07	.01	0	0	.06	0			
9				.05	.01	0	0	.01	0			
10				.05	0	0	0	0	0			
11				.05	0	0	0	0	0			
12				.05	0	0	0	0	0			
13				.05	0	0	0	0	0			
14				.05	0	0	0	0	0			
15				.05	0	0	0	0	0			
16				.05	0	.01	0	0	0			
17				.05	0	.01	0	0	0			
18				.05	0	.01	0	0	0			
19				.05	0	.01	0	0	0			
20				.05	0	.01	0	0	0			
21				.05	0	.01	0	0	0			
22				.05	0	.01	0	.01	0			
23				.05	0	.01	0	.01	0			
24				.05	0	.01	0	.02	0			
25				.05	0	.01	0	.02	0			
26				.05	0	.01	0	.02	0			
27				.05	0	.01	0	.02	0			
28				.05	0	.01	0	.02	0			
29				.05	---	.01	0	.02	0			
30				.05	---	.01	0	.02	0			
31		---		.03	---	.01	---	.02	---			---
TOTAL	0	0	0	1.60	.13	.16	.04	.25	.05	0	0	0
MEAN	0	0	0	.052	.005	.005	.001	.008	.002	0	0	0
MAX	0	0	0	.20	.03	.01	.01	.06	.01	0	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	0	0	3.2	.3	.3	.08	.5	.10	0	0	0

WTR YR 1977 TOTAL 2.23 MEAN .0060 MAX .20 MIN 0 AC-FT 4.4



## 11023330 LOS PENASQUITOS CREEK BELOW POWAY CREEK, NEAR POWAY, CA

LOCATION.--Lat 32°56'58", long 117°04'08", in NW¼NE¼NE¼ sec.22, T.14 S., R.2 W., San Diego County, on right bank at Cobblestone Creek Road, 0.2 mi (0.3 km) downstream from confluence of Poway and Pomerado Creeks, and 2.0 mi (3.2 km) southwest of Poway.

DRAINAGE AREA.--31.2 mi<sup>2</sup> (80.8 km<sup>2</sup>).

PERIOD OF RECORD.--October 1970 to current year.

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

REMARKS.--Records fair. Flow partly regulated by small conservation reservoirs.

AVERAGE DISCHARGE.--7 years, 1.58 ft<sup>3</sup>/s (0.045 m<sup>3</sup>/s), 1,145 acre-ft/yr (1.41 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 651 ft<sup>3</sup>/s (18.4 m<sup>3</sup>/s) Apr. 8, 1975, gage height, 7.50 ft (2.286 m); no flow for parts of some years.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 100 ft<sup>3</sup>/s (283 m<sup>3</sup>/s) and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)	Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)
Nov. 12	0240	429 12.1	7.18 2.188	Mar. 17	0940	106 3.00	6.11 1.862
Jan. 3	0510	*434 12.3	7.19 2.192	May 8	2120	265 7.50	6.76 2.060

Minimum daily discharge, no flow Aug. 5-15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.03	.11	.17	.79	.32	.22	.17	.04	.13	.02	.01	.01
2	.03	.04	.16	1.8	.31	.23	.58	.05	.14	.02	.01	.01
3	.03	.04	.18	59	.27	.18	.26	.03	.12	.02	.01	.01
4	.03	.03	.20	.98	.26	.17	.13	.03	.12	.02	.01	.01
5	.03	.04	.20	1.1	.26	.14	.09	.04	.23	.01	0	.01
6	.03	.05	.21	21	.26	.14	.35	.04	.20	.01	0	.01
7	.02	.03	.18	10	.28	.14	.15	.14	.15	.01	0	.01
8	.02	.03	.20	3.8	.25	.13	.12	41	.12	.01	0	.01
9	.02	.06	.20	.92	.26	.13	.12	33	.14	.01	0	.01
10	.02	.23	.20	.71	.25	.14	.13	1.6	.16	.01	0	.01
11	.02	.07	.18	.62	.24	.15	.15	.59	.10	.01	0	.01
12	.02	48	.18	.55	.23	.15	.13	.66	.09	.01	0	.01
13	.02	.70	.20	.50	.24	.13	.27	.48	.10	.01	0	.01
14	.02	.26	.20	.47	.24	.15	.16	.30	.11	.01	0	.01
15	.03	.23	.20	.43	.21	.12	.15	.27	.10	.01	0	.01
16	.03	.19	.21	.40	.20	2.2	.10	.24	.08	.01	1.5	.01
17	.04	.16	.21	.34	.20	7.4	.10	.17	.06	.01	26	.01
18	.03	.17	.22	.31	.21	.43	.10	.16	.03	.01	1.5	.01
19	.03	.17	.21	.35	.22	.26	.08	.13	.02	.01	.13	.01
20	.03	.17	.18	.33	.26	.23	.06	.13	.05	.01	.05	.01
21	.04	.19	.19	.40	.24	.21	.05	.11	.03	.01	.03	.01
22	.13	.20	.18	.34	.90	.23	.04	.13	.03	.01	.04	.01
23	.84	.18	.20	.33	2.6	.19	.03	.15	.02	.01	.03	.01
24	.16	.18	.20	.35	8.6	.23	.02	13	.01	.01	.02	.01
25	.10	.18	.20	.39	2.1	11	.04	.58	.01	.01	.02	.01
26	.09	.20	.19	.41	.35	.86	.04	.23	.01	.01	.02	.02
27	.06	4.4	.20	.32	.24	.31	.04	.17	.02	.01	.02	.02
28	.04	.31	.20	.37	.23	.58	.05	.15	.02	.01	.02	.02
29	.04	.21	.22	2.0	---	.18	.06	.14	.01	.01	.01	.02
30	.04	.18	7.9	.41	---	.16	.04	.14	.01	.01	.01	.02
31	.05	---	15	.31	---	.16	---	.13	---	.01	.01	---
TOTAL	2.12	57.01	28.57	110.03	20.23	26.95	3.81	94.03	2.42	.35	29.45	.35
MEAN	.068	1.90	.92	3.55	.72	.87	.13	3.03	.081	.011	.95	.012
MAX	.84	48	15	59	8.6	11	.58	41	.23	.02	26	.02
MIN	.02	.03	.16	.31	.20	.12	.02	.03	.01	.01	0	.01
AC-FT	4.2	113	57	218	40	53	7.6	187	4.8	.7	58	.7
a	.10	1.74	.38	3.48	.33	.95	.07	2.54	.02	0	1.41	0

CAL YR 1976 TOTAL 840.66 MEAN 2.30 MAX 115 MIN .02 AC-FT 1670  
WTR YR 1977 TOTAL 375.32 MEAN 1.03 MAX 59 MIN 0 AC-FT 744

a Precipitation, in inches.

## LOS PENASQUITOS CREEK BASIN

11023340 LOS PENASQUITOS CREEK NEAR POWAY, CA

LOCATION.--Lat 32°56'35", long 117°07'15", in Los Penasquitos Grant, San Diego County, on left bank 1.0 mi (1.6 km) downstream from Cypress Creek, and 5.5 mi (8.8 km) southwest of Poway.

DRAINAGE AREA.--42.1 mi<sup>2</sup> (109 km<sup>2</sup>).

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

GAGE.--Water-stage recorder and crest-stage gage. Altitude of gage is 260 ft (79.2 m), from topographic map.

REMARKS.--Records poor. No gage-height record Nov. 10-14, Dec. 8 to June 28. Flow partly regulated by several conservation reservoirs above station. Pumping from wells along stream for irrigation. Flow augmented by reclaimed water from Poway area.

AVERAGE DISCHARGE.--13 years, 3.50 ft<sup>3</sup>/s (0.099 m<sup>3</sup>/s), 2,540 acre-ft/yr (3.13 m<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,100 ft<sup>3</sup>/s (59.5 m<sup>3</sup>/s) Dec. 6, 1966, gage height, 6.90 ft (2.103 m) in gage well, 7.70 ft (2.35 m), from profile of floodmarks, from rating curve extended above 400 ft<sup>3</sup>/s (11.3 m<sup>3</sup>/s) on basis of slope-area measurement at gage height 6.23 ft (1.90 m) in gage well, 7.40 ft (2.26 m), from outside gage; no flow at times in 1968, 1972 and 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 100 ft<sup>3</sup>/s (2.83 f<sup>3</sup>/s) and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)		Gage height (ft) (m)		Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)		Gage height (ft) (m)	
Nov. 12	0230	100	2.83	3.30	1.006	May 8	Unknown	257	7.28	4.27	1.301
Jan. 3	Unknown	*272	7.70	4.34	1.323						

Minimum daily discharge, no flow July 18-31, Aug. 3-8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.25	.39	.27	1.0	.70	.40	.30	.20	.50	.04	.01	.36
2	.21	.42	.23	2.5	.70	.40	.30	.20	.50	.02	.01	.36
3	.21	.39	.21	80	.70	.40	.30	.20	.50	.02	0	.30
4	.25	.39	.19	2.0	.70	.40	.30	.20	.50	.02	0	.25
5	.23	.36	.23	2.0	.70	.40	.30	.20	.50	.01	0	.23
6	.23	.33	.25	30	.60	.40	.30	.20	.40	.01	0	.21
7	.23	.36	.23	15	.60	.40	.30	.20	.40	.01	0	.19
8	.23	.36	.25	5.0	.60	.40	.30	55	.40	.01	0	.21
9	.21	.39	.25	1.5	.60	.30	.30	45	.40	.01	.01	.25
10	.21	.50	.25	1.0	.60	.30	.30	3.0	.40	.02	.01	.25
11	.21	.50	.25	1.0	.50	.30	.25	2.0	.40	.02	.02	.25
12	.21	65	.25	1.0	.50	.30	.25	1.0	.40	.02	.02	.25
13	.21	3.0	.25	1.0	.50	.30	.25	.80	.40	.02	.01	.25
14	.23	1.0	.25	1.0	.50	.30	.25	.60	.40	.02	.01	.23
15	.23	.80	.20	.90	.50	.30	.25	.50	.40	.02	.01	.23
16	.25	.60	.20	.90	.40	2.5	.25	.40	.30	.01	.16	.21
17	.25	.42	.20	.90	.40	10	.25	.40	.30	.01	14	.19
18	.25	.33	.20	.90	.40	1.0	.25	.40	.30	0	2.9	.17
19	.27	.33	.20	.90	.40	.40	.25	.40	.30	0	.78	.19
20	.27	.30	.20	.90	.40	.40	.25	.40	.30	0	.49	.17
21	.26	.27	.20	.80	.40	.40	.25	.30	.20	0	.49	.19
22	.25	.27	.20	.80	.40	.40	.25	.30	.20	0	.56	.19
23	.30	.27	.20	.80	3.5	.40	.25	.30	.20	0	.52	.19
24	.64	.27	.20	.80	12	.40	.25	17	.20	0	.49	.17
25	.64	.25	.20	.80	3.0	15	.25	2.0	.20	0	.45	.17
26	.49	.27	.20	.70	.50	1.0	.25	1.0	.10	0	.39	.15
27	.42	3.4	.20	.70	.40	.50	.25	.70	.10	0	.36	.15
28	.39	2.3	.20	.70	.40	.40	.25	.50	.08	0	.36	.13
29	.36	.49	.20	3.0	---	.40	.25	.50	.06	0	.39	.15
30	.36	.33	10	.80	---	.40	.20	.50	.05	0	.39	.12
31	.36	---	20	.70	---	.40	---	.50	---	0	.36	---
TOTAL	9.11	84.29	36.36	160.00	31.60	39.30	7.95	134.90	9.39	.29	23.20	6.96
MEAN	.29	2.81	1.17	5.16	1.13	1.27	.27	4.35	.31	.009	.75	.23
MAX	.64	.65	.20	.80	.12	.15	.30	.55	.50	.04	.14	.96
MIN	.21	.25	.19	.70	.40	.30	.20	.20	.05	0	0	.12
AC-FT	18	167	72	317	63	78	16	268	19	.6	46	14
CAL YR 1976	TOTAL	1201.84	MEAN 3.28	MAX 150	MIN .03	AC-FT 2380						
WTR YR 1977	TOTAL	543.35	MEAN 1.49	MAX 80	MIN 0	AC-FT 1080						

## 11025500 SANTA YSABEL CREEK NEAR RAMONA, CA

LOCATION.--Lat 33°06'25", long 116°51'55", in SW¼NW¼NE¼ sec.27, T.12 S., R.1 E., San Diego County, on left bank 1.6 mi (2.6 km) downstream from Temescal Creek, and 4.5 mi (7.2 km) north of Ramona.

DRAINAGE AREA.--112 mi<sup>2</sup> (290 km<sup>2</sup>).

PERIOD OF RECORD.--February 1912 to February 1923, October 1943 to current year. Monthly discharge only for February 1912, published in WSP 1315-B.

GAGE.--Water-stage recorder and concrete cutoff wall, repaired at times. Datum of gage is 847.88 ft (258.434 m) above mean sea level (levels by city of San Diego Water Department). See WSP 1315-A for history of changes prior to Feb. 3, 1923.

REMARKS.--Records fair. Flow regulated by Sutherland Reservoir (station 11024000) since July 1954. Some small diversions above station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 28,400 ft<sup>3</sup>/s (804 m<sup>3</sup>/s) Jan. 27, 1916, gage height, 14.0 ft (4.27 m) datum then in use, from rating curve extended above 1,500 ft<sup>3</sup>/s (42.5 m<sup>3</sup>/s) on basis of slope-conveyance computation of maximum flow; no flow at times in some years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 13.7 ft<sup>3</sup>/s (0.38 m<sup>3</sup>/s) May 10, gage height, 2.51 ft (0.765 m); no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		0	.05	.03	.06	.05	.31	.06	.03	0	0	
2		0	.03	.03	.06	.05	.53	.06	.02	0	.01	
3		0	.05	.07	.05	.05	1.3	.06	.02	0	.01	
4		0	.05	.01	.07	.05	1.5	.06	.02	.01	.01	
5		0	.07	.01	.06	.05	.95	.06	.03	.01	.01	
6		0	.05	.05	.06	.06	.69	.06	.01	.01	.01	
7		0	.07	.03	.07	.06	.49	.06	.01	.01	.01	
8		0	.05	.02	.07	.06	.37	.06	.02	.01	0	
9		0	.05	.02	.09	.06	.31	3.0	.02	.01	0	
10		0	.10	.02	.09	.06	.26	9.2	.02	.01	0	
11		.02	.10	.02	.09	.06	.22	2.4	.01	.01	0	
12		.02	.10	.02	.09	.06	.21	1.3	.01	.01	0	
13		.02	.13	.02	.09	.07	.19	.89	.01	.01	0	
14		.02	.13	.02	.06	.07	.18	.73	.02	.01	0	
15		.02	.16	.02	.03	.07	.15	.65	.01	.01	0	
16		.03	.10	.03	.03	.11	.15	.56	.01	.01	0	
17		.02	.13	.02	.03	.20	.12	.45	.01	.01	0	
18		.02	.16	.03	.05	.11	.12	.33	.01	.01	0	
19		.03	.19	.03	.04	.10	.09	.24	.01	.01	0	
20		.03	.13	.05	.05	.09	.09	.17	.01	.01	0	
21		.03	.02	.05	.05	.07	.08	.10	.01	0	0	
22		.05	.03	.05	.06	.07	.07	.06	.01	0	0	
23		.07	.05	.04	.07	.07	.06	.05	.01	.01	0	
24		.05	.03	.03	.10	.10	.06	.09	.01	.01	0	
25		.05	.03	.04	.07	.56	.06	.10	.01	0	0	
26		.07	.03	.05	.05	1.5	.07	.08	.01	0	0	
27		.02	.05	.04	.05	1.4	.07	.08	0	0	0	
28		.02	.05	.04	.05	.91	.07	.07	0	0	0	
29		.03	.07	.06	---	.66	.09	.05	0	0	0	
30		.05	.07	.04	---	.44	.06	.04	0	0	0	
31		---	.05	.05	---	.36	---	.03	---	.01	0	---
TOTAL	0	.67	2.38	1.04	1.74	7.63	8.92	21.15	.37	.20	.06	0
MEAN	0	.022	.077	.034	.062	.25	.30	.68	.012	.007	.002	0
MAX	0	.07	.19	.07	.10	1.5	1.5	9.2	.03	.01	.01	0
MIN	0	0	.02	.01	.03	.05	.06	.03	0	0	0	0
AC-FT	0	1.3	4.7	2.1	3.5	15	18	42	.7	.4	.1	0
CAL YR 1976	TOTAL	320.78	MEAN .88	MAX	50	MIN 0	AC-FT 636					
WTR YR 1977	TOTAL	44.16	MEAN .12	MAX	9.2	MIN 0	AC-FT 88					

## SAN DIEGUITO RIVER BASIN

11026000 SANTA YSABEL CREEK NEAR SAN PASQUAL, CA

LOCATION.--Lat 33°05'10", long 116°54'56", in NE¼NW¼SE¼ sec.31, T.12 S., R.1 E., San Diego County, on left bank 1.1 mi (1.8 km) downstream from Clevenger Canyon, and 2 mi (3 km) east of San Pasqual.

DRAINAGE AREA.--128 mi<sup>2</sup> (332 km<sup>2</sup>).

PERIOD OF RECORD.--December 1905 to September 1910 and May 1911 to September 1912 (published as "near Escondido"), April 1947 to November 1955 (irrigation seasons only), April 1956 to current year. Records for October to December 1910, published in WSP 447, have been found to be in error and should not be used.

GAGE.--Water-stage recorder. Concrete control since April 1947. Altitude of gage is 510 ft (155 m), from topographic map. Dec. 17, 1905, to Sept. 30, 1912, nonrecording gage at site 0.2 mi (0.3 km) downstream at different datum.

REMARKS.--Records good except for periods of no gage-height record Oct. 1 to Jan. 5, Mar. 1-11, which are poor. Flow regulated by Sutherland Reservoir, capacity, 29,680 acre-ft (120 hm<sup>3</sup>) since July 1954. Small diversion above station.

EXTREMES FOR PERIOD OF RECORD.--(1905-12, 1947 to current year). Maximum discharge observed, 8,000 ft<sup>3</sup>/s (227 m<sup>3</sup>/s) Mar. 24, 1906, gage height, 6.3 ft (1.92 m), site and datum then in use; no flow at times in most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7.0 ft<sup>3</sup>/s (0.20 m<sup>3</sup>/s) Jan. 3, gage height, 1.48 ft (0.451 m); no flow Oct. 1 to Nov. 11, Nov. 16 to Dec. 29, June 18 to Sept. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		0	0	.30	.04	.10	.12	.02	.02			
2		0	0	.20	.05	.09	.46	.02	.02			
3		0	0	5.3	.05	.08	.60	.02	.02			
4		0	0	.30	.05	.07	.62	.02	.01			
5		0	0	.06	.05	.06	.57	.02	.02			
6		0	0	.73	.05	.05	.46	.02	.02			
7		0	0	.42	.05	.05	.37	.03	.02			
8		0	0	.16	.05	.04	.32	.19	.02			
9		0	0	.09	.06	.04	.29	2.4	.02			
10		0	0	.08	.06	.04	.27	4.9	.02			
11		0	0	.06	.05	.04	.25	2.6	.02			
12		.80	0	.04	.05	.02	.22	1.3	.02			
13		.40	0	.04	.05	.03	.21	.82	.02			
14		.20	0	.03	.05	.03	.19	.65	.01			
15		.10	0	.03	.04	.02	.14	.60	.01			
16		0	0	.03	.04	.06	.10	.51	.01			
17		0	0	.03	.05	.35	.10	.41	.01			
18		0	0	.03	.05	.18	.10	.33	0			
19		0	0	.03	.05	.09	.07	.27	0			
20		0	0	.03	.06	.07	.04	.19	0			
21		0	0	.03	.10	.06	.03	.13	0			
22		0	0	.03	.09	.05	.03	.06	0			
23		0	0	.03	.20	.04	.03	.05	0			
24		0	0	.03	.32	.08	.02	.14	0			
25		0	0	.03	.22	.71	.02	.11	0			
26		0	0	.03	.15	.32	.02	.05	0			
27		0	0	.03	.12	.24	.03	.03	0			
28		0	0	.03	.11	.21	.03	.02	0			
29		0	0	.05	---	.17	.03	.02	0			
30		0	.40	.03	---	.15	.03	.02	0			
31		---	.25	.03	---	.14	---	.02	---			---
TOTAL	0	1.50	.65	8.34	2.31	3.68	5.77	15.97	.29	0	0	0
MEAN	0	.050	.021	.27	.083	.12	.19	.52	.010	0	0	0
MAX	0	.80	.40	5.3	.32	.71	.62	4.9	.02	0	0	0
MIN	0	0	0	.03	.04	.02	.02	.02	0	0	0	0
AC-FT	0	3.0	1.3	17	4.6	7.3	11	32	.6	0	0	0
CAL YR 1976	TOTAL	300.78	MEAN .82	MAX	61	MIN 0	AC-FT 597					
WTR YR 1977	TOTAL	38.51	MEAN .11	MAX	5.3	MIN 0	AC-FT 76					

## 11027000 GUEJITO CREEK NEAR SAN PASQUAL, CA

LOCATION.--Lat 33°06'57", long 116°57'08", in NW¼NW¼SE¼ sec.23, T.12 S., R.1 W., San Diego County, on left bank 0.3 mi (0.5 km) upstream from Rockwood Canyon Creek, and 1.8 mi (2.9 km) north of San Pasqual.

DRAINAGE AREA.--22.5 mi<sup>2</sup> (58.3 km<sup>2</sup>).

PERIOD OF RECORD.--December 1946 to current year.

GAGE.--Water-stage recorder and Parshall flume. Altitude of gage is 560 ft (171 m), from topographic map.

REMARKS.--Records fair. No regulation above station. Diversion for irrigation 0.2 mi (0.3 km) upstream.

AVERAGE DISCHARGE.--30 years (water years 1948-77), 1.33 ft<sup>3</sup>/s (0.038 m<sup>3</sup>/s), 964 acre-ft/yr (1.19 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,920 ft<sup>3</sup>/s (82.7 m<sup>3</sup>/s) Dec. 6, 1966, gage height, 6.78 ft (2.067 m) from rating curve extended above 440 ft<sup>3</sup>/s (12.5 m<sup>3</sup>/s) on basis of slope-area measurements at gage heights 5.83 ft (1.777 m) and 6.30 ft (1.920 m); no flow at times in most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 22 ft<sup>3</sup>/s (0.62 m<sup>3</sup>/s) Jan. 3, gage height, 2.23 ft (0.680 m), no peak above base of 30 ft<sup>3</sup>/s (0.85 m<sup>3</sup>/s); minimum daily, 0.01 ft<sup>3</sup>/s (<0.001 m<sup>3</sup>/s) many days in July, August and September.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.04	.02	.03	.35	.19	.13	.23	.06	.08	.02	.01	.01
2	.03	.02	.03	.15	.19	.12	.47	.06	.07	.02	.01	.02
3	.05	.02	.03	5.6	.17	.12	.63	.06	.06	.02	.01	.01
4	.03	.02	.03	1.2	.16	.12	.40	.06	.06	.02	.01	.01
5	.03	.02	.02	.68	.15	.10	.27	.05	.06	.02	.01	.01
6	.03	.03	.02	2.4	.15	.09	.21	.05	.06	.02	.01	.01
7	.02	.04	.02	1.5	.14	.08	.18	.05	.05	.02	.01	.01
8	.02	.04	.02	.99	.13	.08	.16	.05	.05	.02	.01	.01
9	.02	.04	.02	.58	.14	.08	.16	4.3	.06	.02	.01	.01
10	.02	.04	.02	.41	.15	.08	.16	2.5	.07	.02	.01	.01
11	.03	.05	.02	.34	.13	.08	.18	1.2	.05	.02	.01	.01
12	.03	.15	.02	.29	.12	.09	.16	.70	.05	.02	.01	.01
13	.02	.09	.02	.27	.10	.09	.15	.52	.05	.02	.01	.01
14	.02	.06	.02	.25	.10	.09	.15	.40	.05	.02	.01	.01
15	.03	.07	.02	.22	.10	.09	.13	.33	.04	.02	.01	.01
16	.02	.05	.02	.21	.09	.13	.13	.27	.04	.02	.01	.02
17	.02	.03	.02	.16	.09	.96	.12	.21	.04	.02	.03	.02
18	.03	.03	.02	.14	.09	.42	.12	.18	.03	.02	.01	.01
19	.04	.03	.02	.15	.09	.25	.12	.16	.03	.02	.01	.02
20	.05	.03	.02	.15	.08	.20	.10	.13	.03	.02	.01	.01
21	.05	.03	.02	.17	.08	.16	.09	.12	.03	.01	.01	.01
22	.13	.03	.02	.18	.13	.15	.08	.10	.03	.01	.02	.01
23	.29	.03	.02	.18	.15	.15	.08	.10	.03	.01	.02	.01
24	.06	.03	.02	.18	.38	.16	.07	.21	.03	.01	.01	.01
25	.05	.03	.02	.16	.43	2.2	.06	.20	.03	.01	.02	.02
26	.04	.04	.02	.20	.24	1.5	.06	.15	.03	.01	.02	.02
27	.03	.11	.02	.20	.17	.63	.06	.12	.03	.01	.03	.02
28	.02	.08	.02	.18	.15	.42	.07	.10	.03	.01	.03	.01
29	.02	.05	.02	.28	---	.33	.07	.10	.02	.01	.03	.01
30	.02	.04	.05	.24	---	.27	.06	.09	.02	.01	.03	.01
31	.02	---	.65	.21	---	.23	---	.09	---	.01	.01	---
TOTAL	1.31	1.35	1.32	18.22	4.29	9.60	4.93	12.72	1.31	.51	.45	.37
MEAN	.042	.045	.043	.59	.15	.31	.16	.41	.044	.017	.015	.012
MAX	.29	.15	.65	5.6	.43	2.2	.63	4.3	.08	.02	.03	.02
MIN	.02	.02	.02	.14	.08	.08	.06	.05	.02	.01	.01	.01
AC-FT	2.6	2.7	2.6	36	8.5	19	9.8	25	2.6	1.0	.9	.7
CAL YR 1976	TOTAL	127.63	MEAN .35	MAX	27	MIN 0	AC-FT 253					
WTR YR 1977	TOTAL	56.38	MEAN .15	MAX	5.6	MIN .01	AC-FT 112					

## SAN DIEGUITO RIVER BASIN

11028500 SANTA MARIA CREEK NEAR RAMONA, CA

LOCATION.--Lat 33°03'08", long 116°56'41", in SE¼SE¼SE¼ sec.11, T.13 S., R.1 W., San Diego County, on left bank 3.8 mi (6.1 km) northwest of Ramona, and 4.6 mi (7.4 km) upstream from mouth.

DRAINAGE AREA.--57.6 mi<sup>2</sup> (149.2 km<sup>2</sup>).

PERIOD OF RECORD.--November 1912 to September 1920, October 1946 to current year.

GAGE.--Water-stage recorder. Concrete control since October 1946. Datum of gage is 1,294.44 ft (394.545 m) above mean sea level. Prior to Oct. 1, 1946, at datum 1.78 ft (0.543 m) lower.

REMARKS.--Records fair. No regulation above station.

AVERAGE DISCHARGE.--38 years (water years 1914-20, 1947-77), 3.18 ft<sup>3</sup>/s (0.090 m<sup>3</sup>/s), 2,300 acre-ft/yr (2.84 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,140 ft<sup>3</sup>/s (202 m<sup>3</sup>/s) Jan. 27, 1916, gage height, 14.1 ft (4.298 m), from floodmarks, present datum, from rating curve extended above 600 ft<sup>3</sup>/s (17.0 m<sup>3</sup>/s) on basis of slope-area measurement of maximum flow; no flow for several months in each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 0.43 ft<sup>3</sup>/s (0.012 m<sup>3</sup>/s) Jan. 8, gage height, 1.02 ft (0.311 m), no peak above base of 20 ft<sup>3</sup>/s (0.57 m<sup>3</sup>/s); no flow most of year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1				0	.05	.02	.03	0				
2				0	.05	.02	.03	0				
3				0	.04	.02	.02	0				
4				0	.04	.02	.02	0				
5				0	.04	.01	.02	0				
6				0	.05	.01	.02	0				
7				0	.05	.02	.02	0				
8				.24	.06	.02	.02	.01				
9				.03	.05	.02	.03	.02				
10				.02	.04	.02	.02	.02				
11				.02	.03	.02	.02	.01				
12				.02	.01	.02	.01	.01				
13				.02	.02	.02	.01	.01				
14				.02	.02	.02	.01	.01				
15				.02	.02	.02	.01	.01				
16				.02	.02	.03	.01	.01				
17				.02	.02	.03	.01	.01				
18				.01	.03	.02	.01	0				
19				.03	.03	.02	.01	.01				
20				.03	.03	.02	.01	.01				
21				.03	.03	.02	0	.01				
22				.03	.03	.01	0	0				
23				.03	.03	.02	0	.01				
24				.04	.03	.02	0	.02				
25				.05	.02	.04	0	.01				
26				.05	.02	.03	0	.01				
27				.04	.02	.03	0	.01				
28				.03	.02	.03	0	.01				
29				.05	---	.02	0	.01				
30				.04	---	.02	0	.01				
31		---		.04	---	.02	---	0	---			---
TOTAL	0	0	0	.93	.90	.66	.34	.24	0	0	0	0
MEAN	0	0	0	.030	.032	.021	.011	.008	0	0	0	0
MAX	0	0	0	.24	.06	.04	.03	.02	0	0	0	0
MIN	0	0	0	0	.01	.01	0	0	0	0	0	0
AC-FT	0	0	0	1.8	1.8	1.3	.7	.5	0	0	0	0
CAL YR 1976	TOTAL	264.55	MEAN .72	MAX	93	MIN 0	AC-FT 525					
WTR YR 1977	TOTAL	3.07	MEAN .008	MAX	.24	MIN 0	AC-FT 6					

## 11030020 LAKE HODGES NEAR ESCONDIDO, CA

LOCATION.--Lat 33°02'41", long 117°07'39", in SE¼SE¼NW¼ sec.18, T.13 S., R.2 W., San Diego County, on face near left end of Hodges Dam on San Dieguito River, and 6.4 mi (10.3 km) southwest of Escondido.

DRAINAGE AREA.--303 mi<sup>2</sup> (785 km<sup>2</sup>).

PERIOD OF RECORD.--October 1945 to September 1968 published with San Dieguito River at Lake Hodges (station 11030000), October 1972 to current year. Records of monthend gage heights February 1919 to September 1945, in files of San Diego County Department of Sanitation and Flood Control.

GAGE.--Water-stage recorder. Datum of gage is 200.0 ft (60.96 m) above mean sea level; gage readings have been reduced to elevations above mean sea level. Prior to Oct. 1, 1972, nonrecording gage at site 800 ft (244 m) upstream on right bank at same datum.

REMARKS.--Reservoir is formed by multiple-arch reinforced concrete dam, constructed in 1917-19. Storage began in February 1919. Capacity table based on a 1948 survey; table dated Sept. 18, 1951. Capacity of reservoir at spillway level, 33,550 acre-ft (41.4 hm<sup>3</sup>), elevation, 315.0 ft (96.01 m). Dead storage below lowest outlet, 1,160 acre-ft (1.43 hm<sup>3</sup>), elevation, 254.0 ft (77.42 m) included in these records. Reservoir can be drawn down to 207 acre-ft (255,000 m<sup>3</sup>), elevation, 240.0 ft (73.15 m) by pumping. Water drawn from Lake Hodges passes through a conduit to San Dieguito re-regulating reservoir, from which it is released as required for municipal use. Flow regulated since July 1954 by Sutherland Reservoir (station 11024000). Diversions for irrigation above Lake Hodges.

COOPERATION.--Gage heights were furnished by San Diego County Department of Sanitation and Flood Control.

EXTREMES FOR PERIOD OF RECORD (1945-68 AND SINCE 1972).--Maximum contents, 37,930 acre-ft (46.8 hm<sup>3</sup>) Apr. 1, 1946, elevation, 315.30 ft (96.103 m); minimum, 114 acre-ft (141,000 m<sup>3</sup>) Oct. 31, 1965, elevation, 235.80 ft (71.872 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 5,560 acre-ft (6.86 hm<sup>3</sup>) June 1, elevation, 274.90 ft (83.790 m); minimum observed, 3,800 acre-ft (4.69 hm<sup>3</sup>) Nov. 10, elevation, 268.45 ft (81.824 m).

## MONTHEND ELEVATION AND CONTENTS, AT 0800, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30.....	268.85	3890	--
Oct. 31.....	268.60	3830	-60
Nov. 30.....	268.95	3920	+90
Dec. 31.....	269.10	3960	+40
CAL YR 1976.....	--	--	+1550
Jan. 31.....	272.20	4770	+810
Feb. 28.....	272.70	4910	+140
Mar. 31.....	273.40	5110	+200
Apr. 30.....	273.35	5090	-20
May 31.....	274.70	5500	+410
June 30.....	274.30	5370	-130
July 31.....	273.75	5210	-160
Aug. 31.....	273.55	5150	-60
Sept. 30.....	273.00	4990	-160
WTR YR 1977.....	--	--	+1100

## ESCONDIDO CREEK BASIN

11030700 LAKE WOHLFORD NEAR ESCONDIDO, CA

LOCATION.--Lat 33°10'00", long 117°00'14", in NW¼NE¼ sec.5, T.12 S., R.1 W., San Diego County, on face of Lake Wohlford Dam, 330 ft (101 m) left of spillway, 3.9 mi (6.3 km) southeast of Valley Center Post Office, and 5.7 mi (9.2 km) northeast of Escondido.

DRAINAGE AREA.--7.96 mi<sup>2</sup> (20.62 km<sup>2</sup>).

PERIOD OF RECORD.--October 1972 to current year. October 1933 to September 1972 in files of San Diego County Department of Sanitation and Flood Control.

GAGE.--Water-stage recorder. Datum of gage is 1,400.0 ft (426.72 m) above mean sea level (levels by city of Escondido Engineering Department); gage readings have been reduced to elevation above mean sea level. Prior to Oct. 1, 1972, nonrecording gage at same site at datum 15.0 ft (4.57 m) lower.

REMARKS.--Reservoir is formed by earthfill dam riprapped upstream and downstream, with concrete spillway anchored to natural rock. Dam was completed in 1932. Capacity table dated March 1955. Capacity at spillway level, 6,940 acre-ft (8.56 hm<sup>3</sup>), elevation, 1,480.0 ft (451.10 m). Dead storage below lowest outlet, 131 acre-ft (162,000 m<sup>3</sup>), elevation, 1,420.0 ft (432.82 m). Reservoir storage includes supplemental water diverted from the San Luis Rey River via Escondido Mutual Water Co.'s canal to Lake Wohlford Reservoir. Stored water is released for municipal use by Vista Irrigation District and city of Escondido.

COOPERATION.--Gage heights were furnished by San Diego County Department of Sanitation and Flood Control.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 6,940 acre-ft (8.56 hm<sup>3</sup>) Apr. 30 to May 10, 1952, elevation, 1,480.0 ft (451.10 m); minimum, 809 acre-ft (997,000 m<sup>3</sup>) Dec. 1, 1953, elevation, 1,447.5 ft (441.20 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 3,530 acre-ft (4.35 hm<sup>3</sup>) Oct. 5, 6, elevation, 1,477.0 ft (450.19 m); minimum, 1,240 acre-ft (1.53 hm<sup>3</sup>) Sept. 29, 30, elevation, 1,458.0 ft (444.40 m).

MONTHEND ELEVATION AND CONTENTS, AT 0700, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30.....	1475.5	3290	--
Oct. 31.....	1475.3	3260	-30
Nov. 30.....	1473.0	2930	-330
Dec. 31.....	1472.6	2870	-60
CAL YR 1976.....	--	--	+1040
Jan. 31.....	1472.3	2830	-40
Feb. 28.....	1473.9	3060	+230
Mar. 31.....	1476.3	3420	+360
Apr. 30.....	1471.4	2700	-720
May 31.....	1469.0	2380	-320
June 30.....	1466.1	2030	-350
July 31.....	1464.0	1800	-230
Aug. 31.....	1463.8	1770	-30
Sept. 30.....	1458.0	1240	-530
WTR YR 1977.....	--	--	-2050



## 11031500 AGUA CALIENTE CREEK NEAR WARNER SPRINGS, CA

LOCATION.--Lat 33°17'19", long 116°39'11", in San Jose del Valle Grant, San Diego County, on downstream end of right pier of bridge on State Highway 79, 1.2 mi (1.9 km) upstream from Canada Verde Creek, and 1.2 mi (1.9 km) northwest of Warner Springs.

DRAINAGE AREA.--19.0 mi<sup>2</sup> (49.2 km<sup>2</sup>).

PERIOD OF RECORD.--February 1961 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 2,950 ft (899 m), from topographic map. Prior to Jan. 29, 1966, at site 120 ft (37 m) upstream at same datum, used as supplementary gage since Dec. 12, 1968.

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

AVERAGE DISCHARGE.--16 years, 0.96 ft<sup>3</sup>/s (0.027 m<sup>3</sup>/s), 696 acre-ft/yr (858,000 m<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,200 ft<sup>3</sup>/s (34.0 m<sup>3</sup>/s) Dec. 6, 1966, gage height, 5.18 ft (1.579 m), from rating curve extended above 240 ft<sup>3</sup>/s (6.80 m<sup>3</sup>/s); no flow for much of each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 20 ft<sup>3</sup>/s (0.57 m<sup>3</sup>/s) Jan. 3, gage height, 2.10 ft (0.640 m), no peak above base of 50 ft<sup>3</sup>/s (1.42 m<sup>3</sup>/s); no flow for many months.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0			0								
2	0			0								
3	0			4.8								
4	0			.70								
5	0			.10								
6	0			.30								
7	0			2.7								
8	0			2.2								
9	0			1.2								
10	0			.40								
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	.40			0								
23	0			0								
24	0			0								
25	0			0								
26	0			0								
27	0			0								
28	0			0								
29	0			0	---							
30	0			0	---							
31	0	---		0	---		---		---			---
TOTAL	.40	0	0	12.40	0	0	0	0	0	0	0	0
MEAN	.013	0	0	.40	0	0	0	0	0	0	0	0
MAX	.40	0	0	4.8	0	0	0	0	0	0	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	.8	0	0	25	0	0	0	0	0	0	0	0
CAL YR 1976	TOTAL	224.76	MEAN .61	MAX	82	MIN 0	AC-FT 446					
WTR YR 1977	TOTAL	12.80	MEAN .035	MAX	4.8	MIN 0	AC-FT 25					

## 11033000 WEST FORK SAN LUIS REY RIVER NEAR WARNER SPRINGS, CA

LOCATION.--Lat 33°17'48", long 116°45'32", in San Jose del Valle Grant, San Diego County, on left bank 0.2 mi (0.3 km) upstream from Fink Road, 2.6 mi (4.2 km) upstream from mouth, and 7.5 mi (12.1 km) west of Warner Springs.

DRAINAGE AREA.--25.5 mi<sup>2</sup> (66.0 km<sup>2</sup>).

PERIOD OF RECORD.--January 1913 to November 1915, October 1956 to current year. Low-flow records not equivalent prior to Nov. 5, 1971, due to undetermined amount of underflow between sites.

REVISED RECORDS.--WDR CA-74: 1973(P).

GAGE.--Water-stage recorder. Altitude of gage is 2,800 ft (853 m), from topographic map. Prior to Oct. 1, 1956, at different datum. Prior to Nov. 5, 1971, at site 500 ft (152 m) downstream at same datum.

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

AVERAGE DISCHARGE.--22 years (water years 1914-15, 1957-77), 6.50 ft<sup>3</sup>/s (0.184 m<sup>3</sup>/s), 4,710 acre-ft/yr (5.81 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,200 ft<sup>3</sup>/s (119 m<sup>3</sup>/s) Dec. 6, 1966, gage height, 11.87 ft (3.618 m), from rating curve extended above 250 ft<sup>3</sup>/s (7.08 m<sup>3</sup>/s) on basis of slope-area measurement of maximum flow; no flow at times in most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 50 ft<sup>3</sup>/s (1.42 m<sup>3</sup>/s) Jan. 3, gage height, 11.15 ft (3.399 m), no peak above base of 100 ft<sup>3</sup>/s (2.83 m<sup>3</sup>/s); no flow for several months.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			0	.24	.63	.39	4.0	.74	.69	.03		
2			0	0	.53	.39	4.6	.74	.63	.04		
3			0	18	.46	.39	5.2	.69	.63	.04		
4			0	5.1	.32	.38	4.3	.74	.63	.04		
5			0	2.6	.32	.32	3.6	.74	.51	.05		
6			0	4.1	.32	.32	3.1	.74	.46	.04		
7			0	11	.32	.32	2.9	.86	.46	.04		
8			0	9.3	.28	.32	2.9	1.1	.43	.04		
9			0	4.9	.24	.28	2.6	29	.39	.04		
10			0	3.2	.27	.32	2.2	18	.36	.03		
11			0	2.1	.27	.27	2.1	10	.27	.03		
12			0	1.9	.27	.27	1.8	7.2	.27	.03		
13			0	1.7	.27	.27	1.3	6.6	.25	.02		
14			0	1.3	.28	.23	1.5	5.4	.20	.02		
15			0	.86	.32	.22	1.0	4.6	.18	.01		
16			0	.72	.27	.29	.96	4.4	.17	0		
17			0	.63	.27	.97	.90	4.7	.14	0		
18			0	.56	.27	2.1	.74	4.2	.12	0		
19			0	.52	.27	1.6	.68	3.7	.11	0		
20			0	.64	.22	1.3	.68	3.2	.10	0		
21			0	.66	.18	1.0	.74	2.8	.10	0		
22			0	1.0	.18	.82	.68	2.4	.10	0		
23			0	.84	.18	.60	.63	2.0	.08	0		
24			0	.71	.28	.67	.63	1.8	.07	0		
25			0	.62	1.1	4.4	.66	2.7	.06	0		
26			0	.63	.83	4.5	.55	2.8	.06	0		
27			0	.74	.59	5.5	.63	2.3	.04	0		
28			0	.71	.44	8.2	.63	1.8	.04	0		
29			0	.91	---	7.6	.63	1.7	.03	0		
30			0	1.4	---	5.3	.63	1.1	.07	0		
31		---	.23	.76	---	4.2	---	.88	---	0		---
TOTAL	0	0	.23	78.35	10.18	53.74	53.47	129.63	7.65	.50	0	0
MEAN	0	0	.007	2.53	.36	1.73	1.78	4.18	.26	.016	0	0
MAX	0	0	.23	18	1.1	8.2	5.2	29	.69	.05	0	0
MIN	0	0	0	0	.18	.22	.55	.69	.03	0	0	0
AC-FT	0	0	.5	155	20	107	106	257	15	1.0	0	0

CAL YR 1976 TOTAL 642.13 MEAN 1.75 MAX 70 MIN 0 AC-FT 1270  
WTR YR 1977 TOTAL 333.75 MEAN .91 MAX 29 MIN 0 AC-FT 662

## SAN LUIS REY RIVER BASIN

287

11037700 PAUMA CREEK NEAR PAUMA VALLEY, CA

LOCATION.--Lat 33°20'10", long 116°58'25", in Pauma Grant, San Diego County, on right bank 0.3 mi (0.5 km) downstream from unnamed tributary, and 2.2 mi (3.5 km) north of Pauma Valley.

DRAINAGE AREA.--11.0 mi<sup>2</sup> (28.5 km<sup>2</sup>).

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

GAGE.--Water-stage recorder on creek; water-stage recorder and Parshall flume on diversion. Altitude of creek gage is 1,240 ft (378 m), from topographic map. Diversion gage is at different datum.

REMARKS.--Records poor. No regulation above station. Pauma Valley Water Co. diverts from a site 0.2 mi (0.3 km) upstream. For records of combined discharge of Pauma Creek and Pauma Valley Water Co.'s diversion, see following page.

AVERAGE DISCHARGE.--Creek only: 13 years, 2.91 ft<sup>3</sup>/s (0.082 m<sup>3</sup>/s), 2,110 acre-ft/yr (2.60 hm<sup>3</sup>/yr).  
Combined creek and diversion: 13 years, 3.59 ft<sup>3</sup>/s (0.102 m<sup>3</sup>/s), 2,600 acre-ft/yr (3.21 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Creek only: Maximum discharge, 2,100 ft<sup>3</sup>/s (59.5 m<sup>3</sup>/s) Dec. 6, 1966, gage height, 8.60 ft (2.621 m), from rating curve extended above 110 ft<sup>3</sup>/s (3.12 m<sup>3</sup>/s) on basis of slope-area measurement of 1,360 ft<sup>3</sup>/s (38.5 m<sup>3</sup>/s); no flow much of each year.  
Combined creek and diversion: Maximum discharge, 2,100 ft<sup>3</sup>/s (59.5 m<sup>3</sup>/s) Dec. 6, 1966; minimum daily, 0.04 ft<sup>3</sup>/s (0.001 m<sup>3</sup>/s) July 29 to Aug. 2, 1972.

EXTREMES FOR CURRENT YEAR.--Creek only: Maximum discharge, 34 ft<sup>3</sup>/s (0.96 m<sup>3</sup>/s) Jan. 3, gage height, 3.03 ft (0.924 m), no peak above base of 50 ft<sup>3</sup>/s (1.42 m<sup>3</sup>/s); no flow many days.  
Combined creek and diversion: Maximum discharge, 34 ft<sup>3</sup>/s (0.96 m<sup>3</sup>/s) Jan. 3; minimum daily, 0.09 ft<sup>3</sup>/s (0.003 m<sup>3</sup>/s) Aug. 15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.01	.04	.06	2.2	.74	.09	1.2	.17	.70	.02	0	.08
2	.01	.03	.06	.92	.70	.09	.73	.17	.60	.02	0	.07
3	.01	.03	.05	14	.58	.09	1.2	.17	.50	.01	0	.06
4	.01	.02	.05	5.7	.53	.09	1.0	.17	.45	.01	0	.05
5	.01	.02	.05	3.3	.46	.09	.90	.17	.40	.01	0	.04
6	.01	.02	.04	6.1	.43	.09	.80	.17	.35	0	0	.03
7	.01	.02	.04	4.0	.40	.09	.70	.17	.32	0	0	.02
8	.01	.02	.03	3.5	.37	.08	.60	.17	.30	0	0	.01
9	.01	.02	.03	3.0	.50	.08	.85	18	.28	0	0	0
10	.01	.01	.03	2.5	.53	.08	.40	6.0	.26	0	0	0
11	.01	.01	.03	2.2	.53	.08	.30	5.0	.24	0	0	0
12	.01	.02	.02	1.8	.50	.08	.20	4.0	.21	0	0	0
13	.01	.08	.02	1.2	.44	.08	.20	3.6	.19	0	0	0
14	.01	.07	.02	1.1	.17	.08	.20	3.5	.17	0	0	0
15	.01	.06	.02	1.0	.16	.08	.20	3.0	.15	0	0	0
16	.01	.04	.02	.97	.14	.09	.20	2.6	.14	0	0	0
17	.01	.07	.02	.83	.11	.31	.20	2.4	.12	0	.90	0
18	.01	.08	.02	.92	.10	.27	.20	2.3	.11	0	1.4	0
19	.01	.07	.02	1.4	.11	.34	.20	3.0	.10	0	.70	0
20	.01	.07	.03	1.5	.10	.43	.20	2.8	.09	0	.40	0
21	.01	.06	.03	1.4	.10	.34	.17	2.7	.08	0	.25	0
22	2.2	.06	.03	1.5	.10	.23	.17	2.6	.07	0	.23	0
23	2.0	.05	.03	1.3	.10	.14	.17	2.5	.06	0	.21	0
24	.66	.04	.03	1.1	.10	.14	.17	2.5	.05	0	.48	0
25	.33	.04	.03	.92	.10	1.5	.17	3.5	.04	0	.20	0
26	.21	.03	.02	.87	.10	1.0	.17	2.0	.04	0	.16	0
27	.14	.04	.02	.87	.10	.92	.17	1.5	.03	0	.14	0
28	.10	.04	.02	.87	.09	1.2	.17	1.3	.03	0	.13	0
29	.08	.06	.02	1.3	---	2.0	.17	1.1	.02	0	.11	0
30	.06	.06	.46	1.2	---	1.6	.17	.90	.02	0	.10	0
31	.05	---	4.6	.87	---	1.2	---	.80	---	0	.09	---
TOTAL	6.04	1.28	5.95	70.34	8.39	12.98	12.18	78.96	6.12	.07	5.50	.36
MEAN	.19	.043	.19	2.27	.30	.42	.41	2.55	.20	.002	.18	.012
MAX	2.2	.08	4.6	14	.74	2.0	1.2	.18	.70	.02	1.4	.08
MIN	.01	.01	.02	.83	.09	.08	.17	.17	.02	0	0	0
AC-FT	12	2.5	12	140	17	26	24	157	12	.1	11	.7
CAL YR 1976	TOTAL	348.38	MEAN	.95	MAX	21	MIN	0	AC-FT	691		
WTR YR 1977	TOTAL	208.17	MEAN	.57	MAX	18	MIN	0	AC-FT	413		

## SAN LUIS REY RIVER BASIN

11037700 PAUMA CREEK NEAR PAUMA VALLEY, CA--Continued

COMBINED DISCHARGE, IN CUBIC FEET PER SECOND, OF PAUMA CREEK AND PAUMA VALLEY  
WATER CO.'S DIVERSION NEAR PAUMA VALLEY, CA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.31	.36	.74	2.5	1.6	.95	2.2	1.2	1.7	.44	.13	.38
2	.31	.38	.70	1.3	1.5	.95	1.7	1.2	1.6	.41	.13	.36
3	.31	.39	.70	1.4	1.4	.95	2.1	1.2	1.5	.38	.12	.33
4	.31	.39	.71	5.9	1.4	.95	1.9	1.2	1.5	.39	.12	.28
5	.31	.37	.73	3.5	1.3	.94	1.8	1.2	1.4	.40	.12	.26
6	.31	.38	.71	6.3	1.3	.94	1.7	1.2	1.5	.36	.12	.23
7	.31	.40	.70	4.3	1.2	.94	1.6	1.2	1.4	.33	.10	.22
8	.31	.42	.68	3.8	1.3	.93	1.5	1.2	1.4	.31	.10	.19
9	.31	.43	.68	3.3	1.4	.93	1.4	1.8	1.4	.30	.10	.18
10	.31	.49	.69	2.8	1.4	.93	1.3	6.7	1.4	.29	.12	.20
11	.31	.55	.69	2.5	1.4	.93	1.4	5.8	1.3	.29	.12	.20
12	.31	.85	.68	2.4	1.3	.93	1.3	4.8	1.3	.29	.10	.23
13	.31	.88	.67	2.1	1.2	.93	1.0	4.4	1.3	.29	.10	.23
14	.31	.87	.68	2.0	1.0	.93	1.1	4.4	1.3	.27	.10	.25
15	.31	.86	.67	1.9	1.0	.95	1.2	3.9	1.3	.30	.09	.25
16	.31	.82	.64	1.8	1.0	.96	1.2	3.5	1.2	.34	.18	.25
17	.31	.74	.64	1.7	.97	1.2	1.2	3.3	1.1	.31	1.4	.27
18	.31	.74	.66	1.8	.96	1.2	1.2	3.2	1.1	.29	1.6	.27
19	.32	.73	.68	2.0	.97	1.2	1.2	3.5	1.1	.27	.92	.25
20	.32	.74	.70	2.2	.96	1.3	1.2	3.3	1.1	.25	.63	.25
21	.32	.71	.69	2.3	.96	1.2	1.2	3.6	1.1	.23	.54	.25
22	2.5	.71	.69	2.4	.96	1.1	1.2	3.6	1.1	.22	.53	.25
23	2.2	.69	.68	2.2	.96	1.1	1.2	3.5	.97	.18	.51	.23
24	.95	.65	.69	2.0	.98	1.1	1.2	3.6	.89	.20	.90	.23
25	.63	.65	.69	1.8	.97	2.5	1.2	4.5	.78	.18	.65	.23
26	.51	.68	.66	1.7	.97	2.0	1.2	3.0	.71	.15	.58	.25
27	.42	.81	.67	1.7	.97	1.9	1.2	2.5	.60	.13	.53	.27
28	.38	.79	.66	1.7	.95	2.2	1.2	2.3	.54	.12	.50	.30
29	.38	.78	.67	2.1	---	3.0	1.2	2.1	.50	.12	.43	.29
30	.36	.77	1.2	2.0	---	2.6	1.2	1.9	.47	.12	.40	.29
31	.36	---	4.9	1.7	---	2.2	---	1.8	---	.12	.39	---
TOTAL	15.23	19.03	25.95	89.7	32.28	40.84	41.2	106.8	34.56	8.28	12.36	7.67
MEAN	.49	.63	.84	2.89	1.15	1.32	1.37	3.45	1.15	.27	.40	.26
MAX	2.5	.88	4.9	14	1.6	3.0	2.2	18	1.7	.44	1.6	.38
MIN	.31	.36	.64	1.3	.95	.93	1.0	1.2	.47	.12	.09	.18
AC-FT	30	38	51	178	64	81	82	212	69	16	25	15
CAL YR 1976	TOTAL	566.79	MEAN	1.55	MAX	21	MIN	.05	AC-FT	1120		
WTR YR 1977	TOTAL	433.90	MEAN	1.19	MAX	18	MIN	.09	AC-FT	861		

## 11040000 SAN LUIS REY RIVER AT MONSERATE NARROWS, NEAR PALA, CA

LOCATION.--Lat 33°20'14", long 117°08'07", in SW¼SE¼NW¼ sec.6, T.10 S., R.2 W., San Diego County, on left bank 4 mi (6 km) southwest of Pala, 6 mi (10 km) northeast of Bonsall, and 27 mi (43 km) downstream from Lake Henshaw.

DRAINAGE AREA.--373 mi<sup>2</sup> (966 km<sup>2</sup>).

PERIOD OF RECORD.--December 1935 to March 1938 (fragmentary), April 1938 to November 1941, October 1946 to current year.

GAGE.--Water-stage recorder. Datum of gage is 270.82 ft (82.546 m) above mean sea level (levels by State of California). Prior to October 1946, at same site at different datum. Oct. 22, 1946, to Nov. 30, 1954, at datum 1.0 ft (0.30 m) higher.

REMARKS.--Records poor. Flow regulated by Henshaw Dam, capacity, 194,300 acre-ft (240 hm<sup>3</sup>). Several diversions above station.

AVERAGE DISCHARGE.--34 years (water years 1939-41, 1947-77), 6.04 ft<sup>3</sup>/s (0.171 m<sup>3</sup>/s), 4,380 acre-ft/yr (5.40 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge since 1946, 7,000 ft<sup>3</sup>/s (198 m<sup>3</sup>/s) Dec. 6, 1966, gage height, 6.70 ft (2.042 m); maximum gage height, 8.7 ft (2.65 m) Feb. 7, 1937, datum then in use, discharge not determined; no flow at times in most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 23 ft<sup>3</sup>/s (0.65 m<sup>3</sup>/s) Jan. 6, gage height, 4.55 ft (1.387 m); minimum daily, 0.01 ft<sup>3</sup>/s (<0.001 m<sup>3</sup>/s) Sept. 4-30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.60	.12	1.0	2.7	1.7	1.2	1.4	.18	1.7	.10	.06	.03
2	.60	.12	.90	1.8	2.0	1.2	1.6	.24	1.5	.08	.06	.02
3	.60	.11	.90	7.4	1.7	1.1	1.4	.31	1.2	.08	.05	.02
4	.60	.10	.95	2.4	1.4	1.1	1.1	.23	.99	.11	.05	.01
5	.50	.12	.90	2.6	1.4	1.1	1.1	.15	.95	.08	.05	.01
6	.50	.12	.90	11	1.3	1.0	1.1	.13	.90	.07	.05	.01
7	.50	.12	.86	8.3	1.3	1.0	1.0	.23	.86	.07	.05	.01
8	.50	.13	.82	5.0	1.4	1.0	1.1	1.9	.90	.06	.06	.01
9	.45	.14	.78	3.1	1.5	1.0	1.3	15	.86	.09	.06	.01
10	.40	.19	.82	2.5	1.5	1.0	1.2	8.6	.74	.08	.05	.01
11	.40	.21	.74	2.1	1.2	.90	1.1	5.3	.55	.08	.04	.01
12	.40	.45	.67	1.8	1.2	.90	.99	5.5	.52	.08	.04	.01
13	.40	.31	.67	1.7	1.2	.90	1.0	9.7	.58	.08	.04	.01
14	.35	.33	.67	1.7	1.3	.90	.95	5.7	.55	.07	.04	.01
15	.30	.35	.80	1.5	1.3	.90	1.0	5.3	.35	.09	.04	.01
16	.30	.33	.78	1.4	1.5	1.4	1.1	4.8	.28	.07	.05	.01
17	.30	.33	.85	1.3	1.1	2.0	1.0	4.7	.26	.05	.31	.01
18	.25	.35	.67	1.4	1.5	1.4	.90	4.2	.23	.05	.35	.01
19	.25	.37	.64	1.5	1.3	1.2	.82	4.1	.20	.06	.13	.01
20	.24	.39	.64	1.6	1.2	1.0	.78	3.8	.26	.06	.10	.01
21	.28	.47	.71	1.7	1.0	1.0	.67	3.6	.26	.05	.10	.01
22	.23	.50	.82	1.5	1.3	1.0	.64	3.4	.23	.06	.09	.01
23	.24	.59	1.0	1.4	1.3	1.0	.61	3.6	.18	.05	.07	.01
24	.23	.58	1.0	1.5	1.3	1.1	.55	4.7	.16	.04	.05	.01
25	.23	.61	.71	1.5	3.8	6.2	.61	4.1	.12	.04	.04	.01
26	.20	.77	.71	1.5	1.5	2.5	.67	3.9	.12	.03	.04	.01
27	.16	1.2	.78	1.5	1.3	1.7	.64	3.8	.15	.03	.03	.01
28	.15	.82	.78	1.5	1.2	1.5	.37	3.6	.10	.04	.03	.01
29	.15	.90	.78	1.8	---	1.5	.28	3.3	.14	.04	.03	.01
30	.15	.95	4.6	1.5	---	1.4	.21	3.3	.12	.03	.03	.01
31	.14	---	6.8	1.5	---	1.4	---	2.1	---	.04	.02	---
TOTAL	10.60	12.08	34.65	79.7	40.7	42.50	27.19	119.47	15.96	1.96	2.21	.34
MEAN	.34	.40	1.12	2.57	1.45	1.37	.91	3.85	.53	.063	.071	.011
MAX	.60	1.2	6.8	11	3.8	6.2	1.6	15	1.7	.11	.35	.03
MIN	.14	.10	.64	1.3	1.0	.90	.21	.13	.10	.03	.02	.01
AC-FT	21	24	69	158	81	84	54	237	32	3.9	4.4	.7

CAL YR 1976 TOTAL 310.99 MEAN .85 MAX 19 MIN 0 AC-FT 617  
WTR YR 1977 TOTAL 387.36 MEAN 1.06 MAX 15 MIN .01 AC-FT 768

## SAN LUIS REY RIVER BASIN

11040200 KEYS CREEK TRIBUTARY AT VALLEY CENTER, CA

LOCATION.--Lat 33°13'45", long 117°02'09", in NW¼SE¼ sec.12, T.11 S., R.2 W., San Diego County, on left bank 140 ft (43 m) upstream from bridge on Valley Center Road, 0.3 mi (0.48 km) downstream from unnamed tributary, and 0.8 mi (1.3 km) north of Valley Center.

DRAINAGE AREA.--7.65 mi<sup>2</sup> (19.81 km<sup>2</sup>).

PERIOD OF RECORD.--April 1970 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,279.99 ft (390.141 m) above mean sea level (San Diego County Special District Services bench mark).

REMARKS.--Records good. No regulation above station. Some pumping for irrigation above station.

AVERAGE DISCHARGE.--7 years, 0.33 ft<sup>3</sup>/s (0.009 m<sup>3</sup>/s), 239 acre-ft/yr (295,000 m<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 304 ft<sup>3</sup>/s (8.61 m<sup>3</sup>/s) Jan. 8, 1974, gage height, 3.86 ft (1.177 m); no flow for part of each year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Jan. 25, 1969, 990 ft<sup>3</sup>/s (28 m<sup>3</sup>/s), by San Diego County Special District Services.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 40 ft<sup>3</sup>/s (1.13 m<sup>3</sup>/s) and maximum (\*), from rating curve extended above 15 ft<sup>3</sup>/s (0.42 m<sup>3</sup>/s) based on slope-area measurement of peak flow:

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)		Gage height (ft) (m)	
Jan. 3	0645	145	4.11	3.90	1.189
Jan. 6	0545	79	2.24	3.56	1.085
May 8	2115	*296	8.38	4.36	1.329

Minimum daily discharge, no flow during parts of many months.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	.01	.03	.19	.08	.08	.02	.03	.03	.02	0	0
2	.01	.01	.04	.23	.08	.08	.05	.02	.05	.02	0	0
3	.01	0	.04	.12	.08	.08	.03	.03	.06	.02	0	0
4	.01	0	.05	.12	.08	.09	.03	.04	.06	.02	0	0
5	0	.07	.08	.28	.08	.08	.03	.05	.06	.02	0	0
6	0	.02	.03	.14	.08	.08	.02	.05	.06	.02	0	0
7	0	.02	.03	1.6	.08	.08	.02	.05	.06	.02	0	0
8	0	.01	.03	.49	.08	.07	.02	.30	.07	.02	0	0
9	0	.01	.03	.17	.08	.09	.03	.19	.07	.01	0	0
10	0	.01	.12	.15	.09	.07	.03	1.1	.07	.01	0	0
11	0	.02	.07	.13	.08	.08	.03	.49	.06	.01	0	0
12	0	.15	.06	.12	.08	.06	.03	.39	.05	.01	0	0
13	0	.04	.03	.12	.08	.02	.03	.41	.06	.01	0	0
14	0	.05	.04	.10	.09	.02	.03	.19	.06	.01	0	0
15	0	.06	.04	.10	.09	.02	.03	.18	.05	.02	0	0
16	0	.02	.05	.10	.08	.14	.02	.15	.04	.01	.04	0
17	.01	.02	.05	.09	.07	.21	.03	.14	.04	.01	.12	0
18	.01	.02	.05	.09	.07	.15	0	.13	.04	0	.07	0
19	.01	.02	.03	.09	.08	.11	0	.12	.04	0	.03	0
20	.01	.02	.04	.09	.08	.08	.01	.11	.04	.01	.01	0
21	0	.02	.05	.10	.08	.08	.01	.10	.04	.01	0	1.8
22	0	.02	.05	.10	.08	.13	0	.10	.04	0	0	5.0
23	0	.02	.06	.10	.09	.15	.01	.11	.04	0	0	.08
24	0	.02	.06	.09	.12	.19	.02	.13	.04	0	0	.05
25	0	.02	.06	.09	.09	.2.3	.02	.11	.03	0	0	.06
26	0	.02	.07	.09	.09	.24	.03	.11	.03	0	0	.04
27	.01	.10	.06	.09	.08	.05	.03	.10	.03	0	0	.03
28	.01	.05	.06	.09	.08	.03	.03	.10	.03	0	0	.04
29	.01	.03	.07	.09	---	.03	.01	.10	.02	0	0	.04
30	0	.03	.15	.07	---	.03	.03	.09	.02	0	0	.04
31	.01	---	.49	.07	---	.02	---	.02	---	0	0	---
TOTAL	.11	.91	2.12	31.24	2.32	4.94	.68	53.75	1.39	.28	.27	7.18
MEAN	.004	.030	.068	1.01	.083	.16	.023	1.73	.046	.009	.009	.24
MAX	.01	.15	.49	.14	.12	.2.3	.05	.30	.07	.02	.12	5.0
%IN	0	0	.03	.07	.07	.02	0	.02	.02	0	0	0
AC-FT	.2	1.8	4.2	62	4.6	9.8	1.3	107	2.8	.6	.5	14

CAL YR 1976 TOTAL 140.50 MEAN .38 MAX 35 MIN 0 AC-FT 279  
WTR YR 1977 TOTAL 105.19 MEAN .29 MAX 30 MIN 0 AC-FT 209

## 11041000 SAN LUIS REY RIVER NEAR BONSALL, CA

LOCATION.--Lat 33°15'13", long 117°14'48", in SW¼NE¼NE¼ sec.1, T.11 S., R.4 W., San Diego County, on left bank 0.7 mi (1.1 km) downstream from bridge on State Highway 76, and 2.8 mi (4.5 km) southwest of Bonsall.

DRAINAGE AREA.--513 mi<sup>2</sup> (1,330 km<sup>2</sup>).

PERIOD OF RECORD.--July 1916 to September 1918 (gage heights and discharge measurements only), October 1929 to current year.

GAGE.--Water-stage recorder. Datum of gage is 108.10 ft (32.949 m) above mean sea level. See WSP 1315-B, 1735 for history of changes prior to Sept. 16, 1946.

REMARKS.--Records fair. Flow regulated by Henshaw Dam, capacity, 194,300 acre-ft (240 hm<sup>3</sup>). Several diversions above station.

AVERAGE DISCHARGE.--48 years, 17.0 ft<sup>3</sup>/s (0.481 m<sup>3</sup>/s), 12,320 acre-ft/yr (15.2 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 18,100 ft<sup>3</sup>/s (513 m<sup>3</sup>/s) Mar. 3, 1938, gage height, 16.04 ft (4.889 m), present datum, from rating curve extended above 2,400 ft<sup>3</sup>/s (68.0 m<sup>3</sup>/s); no flow for part of some years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 257 ft<sup>3</sup>/s (7.28 m<sup>3</sup>/s) Jan. 6, gage height, 8.63 ft (2.630 m); minimum daily, 0.14 ft<sup>3</sup>/s (0.004 m<sup>3</sup>/s) Aug. 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.8	4.8	7.6	39	18	17	16	6.4	6.8	3.2	.42	3.3
2	4.4	4.7	7.6	27	19	17	16	6.2	6.4	3.1	.33	3.2
3	4.2	4.6	7.5	36	19	16	17	6.1	6.3	3.0	.30	3.0
4	4.2	4.6	7.5	58	18	16	18	6.0	6.0	2.9	.25	3.0
5	4.0	4.6	7.5	30	17	15	15	6.0	5.8	2.8	.20	2.9
6	3.8	4.5	7.4	109	17	14	14	5.8	6.0	2.7	.15	2.9
7	3.8	4.4	7.4	142	17	14	14	5.8	6.2	2.6	.15	2.7
8	3.5	4.5	7.4	67	17	14	13	7.6	6.0	2.5	.18	2.6
9	3.2	4.5	7.6	44	16	14	12	4.6	6.0	2.4	.14	2.4
10	3.0	5.0	7.8	34	15	13	13	5.9	6.0	2.3	.24	2.2
11	3.0	5.5	7.8	32	16	12	13	2.6	5.7	2.2	.36	2.4
12	3.0	6.5	8.0	29	16	12	13	2.0	5.6	2.1	.33	2.4
13	3.1	11	8.3	27	16	12	12	1.8	5.6	2.0	.35	2.6
14	3.1	10	8.5	26	16	12	12	1.7	5.5	1.9	.32	2.5
15	3.2	7.6	8.8	25	16	11	11	1.5	5.3	1.8	.29	2.4
16	3.3	7.5	9.0	24	15	12	10	1.4	5.2	1.7	.56	2.3
17	3.3	6.8	9.0	23	14	15	9.8	1.3	5.1	1.6	4.4	2.0
18	3.5	6.4	9.1	22	14	17	9.7	1.2	4.6	1.5	1.6	1.7
19	3.8	6.2	8.9	22	14	15	9.7	1.1	4.5	1.4	1.1	1.9
20	4.0	6.2	9.3	22	14	15	9.2	9.7	4.5	1.2	7.2	1.8
21	4.2	6.1	9.6	22	14	14	8.6	9.1	4.3	1.1	6.1	1.9
22	4.2	6.2	9.9	21	15	13	8.0	8.5	4.2	.93	5.7	2.1
23	4.4	6.4	8.5	19	15	13	7.7	8.5	4.0	.78	5.4	2.3
24	4.5	6.4	8.5	19	17	13	7.4	9.0	3.9	.86	5.0	2.3
25	4.6	6.6	9.4	19	21	20	7.3	9.7	3.8	.82	4.6	2.1
26	4.9	8.9	9.4	19	20	34	7.2	9.2	3.7	.75	4.2	2.3
27	4.9	8.0	10	19	18	24	7.1	8.1	3.6	.61	3.9	2.4
28	4.6	7.8	10	19	18	21	7.0	7.6	3.5	.52	3.6	2.4
29	4.5	7.7	11	19	---	20	6.7	7.5	3.4	.41	3.5	2.5
30	4.6	7.7	16	19	---	18	6.6	7.4	3.3	.40	3.7	2.5
31	4.8	---	37	19	---	17	---	7.3	---	.40	3.5	---
TOTAL	122.4	191.7	301.3	1052	462	490	331.0	402.5	150.8	52.48	92.37	73.0
MEAN	3.95	6.39	9.72	33.9	16.5	15.8	11.0	13.0	5.03	1.69	2.98	2.43
MAX	4.9	11	37	142	21	34	18	59	6.8	3.2	16	3.3
MIN	3.0	4.4	7.4	19	14	11	6.6	5.8	3.3	.40	.14	1.7
AC-FT	243	380	598	2090	916	972	657	798	299	104	183	145
CAL YR 1976	TOTAL	3518.17	MEAN	9.61	MAX	210	MIN	.32	AC-FT	6980		
WTR YR 1977	TOTAL	3721.55	MEAN	10.2	MAX	142	MIN	.14	AC-FT	7380		

## SAN LUIS REY RIVER BASIN

11042000 SAN LUIS REY RIVER AT OCEANSIDE, CA

LOCATION.--Lat 33°12'48", long 117°22'33", in SW¼SE¼SW¼ sec.14, T.11 S., R.5 W., San Diego County, on right bank 0.7 mi (1.1 km) upstream from bridge on Interstate Highway 5, 1.1 mi (1.8 km) upstream from mouth, and 1.2 mi (1.9 km) north of Oceanside.

DRAINAGE AREA.--558 mi<sup>2</sup> (1,450 km<sup>2</sup>).

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1912 to September 1914 (published as "near Oceanside"), January 1916, October 1929 to January 1942, October 1946 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 20 ft (6.1 m), from topographic map. April 1912 to September 1914, nonrecording gage at site 0.8 mi (1.3 km) upstream at different datum. January 1916, nonrecording gage 0.2 mi (0.3 km) downstream at different datum.

REMARKS.--Records fair. Flow regulated by Lake Henshaw, capacity, 194,300 acre-ft (240 hm<sup>3</sup>). Several diversions for irrigation and domestic use above station. AVERAGE DISCHARGE represents flow to ocean during period of record regardless of upstream development.

AVERAGE DISCHARGE.--45 years (water years 1913-14, 1930-41, 1947-77), 14.5 ft<sup>3</sup>/s (0.411 m<sup>3</sup>/s), 10,510 acre-ft/yr (13.0 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 95,600 ft<sup>3</sup>/s (2,710 m<sup>3</sup>/s) Jan. 27, 1916, from hydrograph based on discharge measurements; no flow for several months in some years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 263 ft<sup>3</sup>/s (7.45 m<sup>3</sup>/s) Jan. 7, gage height, 8.75 ft (2.667 m); minimum daily, 0.91 ft<sup>3</sup>/s (0.026 m<sup>3</sup>/s) Oct. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.4	1.1	2.1	18	27	23	23	7.8	10	3.6	1.8	2.6
2	1.4	1.1	2.1	27	27	22	23	7.6	8.2	3.6	1.7	2.6
3	1.3	1.1	2.2	40	27	21	27	7.4	6.3	3.6	1.5	2.5
4	1.1	1.1	2.3	38	26	20	27	7.2	9.7	3.4	1.5	2.5
5	1.1	1.1	2.4	51	25	19	22	7.2	12	3.3	1.5	2.3
6	1.1	1.1	2.5	81	25	17	20	7.1	11	3.3	1.6	2.3
7	1.0	1.0	2.5	178	24	17	19	6.7	8.5	3.1	1.5	2.2
8	1.0	1.0	2.6	194	24	18	17	8.9	7.8	3.0	1.5	2.1
9	1.1	1.0	2.6	108	24	18	16	23	7.4	3.0	1.5	2.0
10	.95	1.1	2.6	78	25	17	17	20	6.1	3.0	1.5	2.0
11	.91	1.1	2.7	67	24	16	16	44	6.1	2.9	1.5	1.9
12	.95	1.5	2.5	59	23	23	15	51	6.1	2.9	1.5	1.9
13	1.0	1.7	2.6	53	22	27	17	37	6.0	2.9	1.6	1.8
14	1.1	1.5	2.7	47	22	23	17	29	5.8	2.8	1.7	1.7
15	1.2	1.5	3.0	43	22	16	15	25	5.5	2.7	1.7	1.7
16	1.2	1.5	3.1	40	21	15	19	24	5.3	2.7	1.8	1.6
17	1.2	1.5	3.3	38	20	18	22	21	5.2	2.6	15	1.6
18	1.3	1.5	3.7	36	19	16	18	20	5.1	2.6	12	1.5
19	1.3	1.6	4.4	35	19	16	13	18	5.0	2.6	7.1	1.5
20	1.4	1.7	4.3	33	18	17	11	17	4.8	2.6	5.5	1.5
21	1.4	1.7	4.4	33	18	17	10	16	4.7	2.5	4.7	1.4
22	1.4	1.7	4.7	32	19	17	9.8	15	4.7	2.6	4.4	1.4
23	1.4	1.7	4.8	30	19	16	9.7	14	4.4	2.5	3.7	1.4
24	1.3	1.6	5.1	29	20	15	8.9	15	4.4	2.3	3.4	1.3
25	1.2	1.7	5.1	29	22	27	8.5	14	4.6	2.2	3.1	1.3
26	1.3	1.8	5.1	28	22	24	7.9	14	4.3	2.2	3.1	1.3
27	1.1	1.8	5.3	27	24	28	7.6	13	4.6	2.1	3.0	1.2
28	1.0	1.8	5.8	27	24	35	7.2	12	5.0	2.0	2.8	1.2
29	1.0	1.9	6.0	30	---	31	7.2	12	4.3	1.9	2.8	1.2
30	1.1	2.0	7.3	28	---	27	7.6	11	4.0	1.8	2.8	1.2
31	1.1	---	15	26	---	24	---	11	---	1.8	2.7	---
TOTAL	36.31	43.5	124.8	1583	632	640	458.4	535.9	186.9	84.1	101.5	52.7
MEAN	1.17	1.45	4.03	51.1	22.6	20.6	15.3	17.3	6.23	2.71	3.27	1.76
MAX	1.4	2.0	15	194	27	35	27	51	12	3.6	15	2.6
MIN	.91	1.0	2.1	18	18	15	7.2	6.7	4.0	1.8	1.5	1.2
AC-FT	72	86	248	3140	1250	1270	909	1060	371	167	201	105
CAL YR 1976	TOTAL	3217.55	MEAN	8.79	MAX	123	MIN	.80	AC-FT	6380		
WTR YR 1977	TOTAL	4479.11	MEAN	12.3	MAX	194	MIN	.91	AC-FT	8880		



## 11042000 SAN LUIS REY RIVER AT OCEANSIDE, CA--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1969 to current year.

WATER TEMPERATURES: Water year 1971 to current year.

SEDIMENT RECORDS: Water year 1969 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: October 1970 to current year.

SEDIMENT RECORDS: October 1968 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATIONS (Water year 1969 to current year): Maximum daily mean, 1,220 mg/l Mar. 2, 1970; minimum daily mean, 2 mg/l on several days in 1972 and 1977.

SEDIMENT DISCHARGE (Water year 1969 to current year): Maximum daily, 943 tons (855 tonnes) Mar. 2, 1970; minimum daily, 0.01 ton (0.01 tonne) Nov. 4, 1969.

EXTREMES FOR CURRENT YEAR.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 309 mg/l Jan. 6; minimum daily mean, 2 mg/l Mar. 1-2, 14-15.

SEDIMENT DISCHARGE: Maximum daily, 111 tons (101 tonnes) Jan. 7; minimum daily, 0.02 ton (0.02 tonne) on several days in November and September.

## SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	OCTOBER			NOVEMBER			DECEMBER		
	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	1.4	9	.03	1.1	12	.04	2.1	7	.04
2	1.4	10	.04	1.1	11	.03	2.1	7	.04
3	1.3	10	.04	1.1	20	.06	2.2	8	.05
4	1.1	10	.03	1.1	16	.05	2.3	8	.05
5	1.1	11	.03	1.1	12	.04	2.4	7	.05
6	1.1	11	.03	1.1	8	.02	2.5	7	.05
7	1.0	11	.03	1.0	9	.02	2.5	10	.07
8	1.0	10	.03	1.0	11	.03	2.6	30	.21
9	1.1	10	.03	1.0	13	.04	2.6	15	.11
10	.95	11	.03	1.1	10	.03	2.6	15	.11
11	.91	11	.03	1.1	8	.02	2.7	15	.11
12	.95	12	.03	1.5	7	.03	2.5	15	.10
13	1.0	13	.04	1.7	8	.04	2.6	14	.10
14	1.1	14	.04	1.5	8	.03	2.7	14	.10
15	1.2	15	.05	1.5	7	.03	3.0	14	.11
16	1.2	16	.05	1.5	7	.03	3.1	14	.12
17	1.2	14	.05	1.5	8	.03	3.3	13	.12
18	1.3	12	.04	1.5	8	.03	3.7	13	.13
19	1.3	9	.03	1.6	15	.06	4.4	13	.15
20	1.4	20	.08	1.7	15	.07	4.3	13	.15
21	1.4	20	.08	1.7	13	.06	4.4	12	.14
22	1.4	20	.08	1.7	11	.05	4.7	12	.15
23	1.4	20	.08	1.7	10	.05	4.8	12	.16
24	1.3	16	.06	1.6	10	.04	5.1	12	.17
25	1.2	12	.04	1.7	11	.05	5.1	11	.15
26	1.3	9	.03	1.8	11	.05	5.1	11	.15
27	1.1	10	.03	1.8	12	.06	5.3	11	.16
28	1.0	12	.03	1.8	14	.07	5.8	11	.17
29	1.0	14	.04	1.9	10	.05	6.0	10	.16
30	1.1	16	.05	2.0	7	.04	7.3	20	.39
31	1.1	14	.04	---	---	---	15	30	1.2
TOTAL	36.31	---	1.32	43.5	---	1.25	124.8	---	4.97

11042000 SAN LUIS REY RIVER AT OCEANSIDE, CA--Continued

## SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	JANUARY			FEBRUARY			MARCH		
	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	18	25	1.2	27	10	.73	23	2	.12
2	27	15	1.1	27	15	1.1	22	2	.12
3	40	7	.76	27	20	1.5	21	3	.17
4	38	5	.51	26	25	1.8	20	3	.16
5	51	26	4.1	25	24	1.6	19	3	.15
6	81	309	73	25	23	1.6	17	5	.23
7	178	249	111	24	22	1.4	17	7	.32
8	194	66	39	24	20	1.3	18	10	.49
9	108	8	2.2	24	18	1.2	18	6	.29
10	78	11	2.3	25	16	1.1	17	3	.14
11	67	7	1.3	24	15	.97	16	3	.13
12	59	4	.64	23	13	.81	23	3	.19
13	53	3	.43	22	12	.71	27	3	.22
14	47	3	.38	22	11	.65	23	2	.12
15	43	3	.35	22	10	.59	16	2	.09
16	40	4	.43	21	15	.85	15	8	.32
17	38	4	.41	20	20	1.1	18	12	.58
18	36	5	.49	19	25	1.3	16	16	.69
19	35	7	.66	19	30	1.5	16	21	.91
20	33	8	.71	18	20	.97	17	20	.92
21	33	10	.89	18	15	.73	17	20	.92
22	32	12	1.0	19	12	.62	17	19	.87
23	30	14	1.1	19	9	.46	16	22	.95
24	29	15	1.2	20	11	.59	15	25	1.0
25	29	15	1.2	22	7	.42	27	40	2.9
26	28	12	.91	22	3	.18	24	20	1.3
27	27	11	.80	24	3	.19	28	15	1.1
28	27	10	.73	24	3	.19	35	10	.94
29	30	8	.65	---	---	---	31	8	.67
30	28	6	.45	---	---	---	27	7	.51
31	26	5	.35	---	---	---	24	6	.39
TOTAL	1583	---	250.25	632	---	26.16	640	---	17.91
DAY	APRIL			MAY			JUNE		
	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	23	5	.31	7.8	20	.42	10	8	.22
2	23	4	.25	7.6	20	.41	8.2	8	.18
3	27	5	.36	7.4	25	.50	6.3	8	.14
4	27	5	.36	7.2	22	.43	9.7	8	.21
5	22	5	.30	7.2	20	.39	12	8	.26
6	20	5	.27	7.1	20	.38	11	25	.74
7	19	5	.26	6.7	20	.36	8.5	50	1.1
8	17	5	.23	8.9	20	.48	7.8	55	1.2
9	16	5	.22	23	73	4.5	7.4	60	1.2
10	17	5	.23	20	25	1.4	6.1	65	1.1
11	16	5	.22	44	198	27	6.1	75	1.2
12	15	5	.20	51	280	39	6.1	60	.99
13	17	5	.23	37	210	21	6.0	50	.81
14	17	5	.23	29	150	12	5.8	39	.61
15	15	5	.20	25	75	5.1	5.5	45	.67
16	19	5	.26	24	40	2.6	5.3	50	.72
17	22	5	.30	21	30	1.7	5.2	60	.84
18	18	4	.19	20	20	1.1	5.1	66	.91
19	13	4	.14	18	18	.87	5.0	40	.54
20	11	7	.21	17	16	.73	4.8	30	.39
21	10	10	.27	16	14	.60	4.7	21	.27
22	9.8	15	.40	15	13	.53	4.7	25	.32
23	9.7	18	.47	14	12	.45	4.4	30	.36
24	8.9	16	.38	15	11	.45	4.4	35	.42
25	8.5	15	.34	14	10	.38	4.6	37	.46
26	7.9	14	.30	14	9	.34	4.3	36	.42
27	7.6	15	.31	13	9	.32	4.6	36	.45
28	7.2	16	.31	12	9	.29	5.0	35	.47
29	7.2	17	.33	12	8	.26	4.3	36	.42
30	7.6	17	.35	11	8	.24	4.0	37	.40
31	---	---	---	11	8	.24	---	---	---
TOTAL	458.4	---	8.43	535.9	---	124.47	186.9	---	18.02

11042000 SAN LUIS REY RIVER AT OCEANSIDE, CA--Continued

## SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	JULY			AUGUST			SEPTEMBER		
	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	3.6	38	.37	1.8	35	.17	2.6	8	.06
2	3.6	39	.38	1.7	49	.22	2.6	8	.06
3	3.6	35	.34	1.5	48	.19	2.5	8	.05
4	3.4	30	.28	1.5	46	.19	2.5	7	.05
5	3.3	24	.21	1.5	45	.18	2.3	7	.04
6	3.3	25	.22	1.6	40	.17	2.3	6	.04
7	3.1	26	.22	1.5	38	.15	2.2	6	.04
8	3.0	28	.23	1.5	36	.15	2.1	7	.04
9	3.0	29	.23	1.5	35	.14	2.0	7	.04
10	3.0	28	.23	1.5	34	.14	2.0	7	.04
11	2.9	28	.22	1.5	30	.12	1.9	10	.05
12	2.9	27	.21	1.5	25	.10	1.9	13	.07
13	2.9	29	.23	1.6	19	.08	1.8	16	.08
14	2.8	30	.23	1.7	20	.09	1.7	14	.06
15	2.7	31	.23	1.7	21	.10	1.7	13	.06
16	2.7	32	.23	1.8	23	.11	1.6	12	.05
17	2.6	33	.23	15	220	8.9	1.6	11	.05
18	2.6	35	.25	12	150	4.9	1.5	11	.04
19	2.6	36	.25	7.1	120	2.3	1.5	12	.05
20	2.6	36	.25	5.5	100	1.5	1.5	12	.05
21	2.5	35	.24	4.7	80	1.0	1.4	12	.05
22	2.6	35	.25	4.4	60	.71	1.4	11	.04
23	2.5	34	.23	3.7	40	.40	1.4	11	.04
24	2.3	34	.21	3.4	30	.28	1.3	10	.04
25	2.2	50	.30	3.1	20	.17	1.3	10	.04
26	2.2	75	.45	3.1	15	.13	1.3	8	.03
27	2.1	60	.34	3.0	10	.08	1.2	7	.02
28	2.0	50	.27	2.8	9	.07	1.2	6	.02
29	1.9	40	.21	2.8	8	.06	1.2	7	.02
30	1.8	30	.15	2.8	7	.05	1.2	7	.02
31	1.8	25	.12	2.7	7	.05	---	---	---
TOTAL	84.1	---	7.81	101.5	---	22.90	52.7	---	1.34
YEAR	4479.11		484.83						

## PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	TEMPER- ATURE (DEG C)	INSTAN- TANEOUS DIS- CHARGE (CFS)	SUS- PENDED SEDI- MENT (MG/L)	SUS- PENDED SEDI- MENT DIS- CHARGE (T/DAY)	SUS. SED. SIEVE DIAM. % FINER THAN .062 MM	SUS. SED. SIEVE DIAM. % FINER THAN .125 MM	SUS. SED. SIEVE DIAM. % FINER THAN .250 MM
APR								
30...	1200	--	7.6	17	.35	91	98	100
MAY								
08...	0800	--	7.9	23	.49	100	--	--
09...	0905	15.0	26	85	6.0	96	99	100

## SANTA MARGARITA RIVER BASIN

11042400 TEMECULA CREEK NEAR AGUANGA, CA

LOCATION.--Lat 33°27'33", long 116°55'22", in NE¼SW¼SW¼ sec.19, T.8 S., R.1 E., Riverside County, on right bank 1.6 mi (2.6 km) downstream from Long Canyon, and 3.5 mi (5.6 km) northwest of Aguanga.

DRAINAGE AREA.--131 mi<sup>2</sup> (339 km<sup>2</sup>).

PERIOD OF RECORD.--August 1957 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 1,590 ft (485 m), from topographic map.

REMARKS.--Records good. No regulation above station. Pumping for irrigation above station.

AVERAGE DISCHARGE.--20 years, 3.92 ft<sup>3</sup>/s (0.111 m<sup>3</sup>/s), 2,840 acre-ft/yr (3.50 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,540 ft<sup>3</sup>/s (100 m<sup>3</sup>/s) Apr. 3, 1958, gage height, 6.57 ft (2.003 m), from rating curve extended above 1,200 ft<sup>3</sup>/s (34 m<sup>3</sup>/s); no flow at times in each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 104 ft<sup>3</sup>/s (2.95 m<sup>3</sup>/s) May 9, (0315 hrs), gage height, 2.39 ft (0.728 m), no other peak above base of 50 ft<sup>3</sup>/s (1.42 m<sup>3</sup>/s); no flow some months.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.65	.30	.40	2.2	1.2	1.0	2.2	.75	.93	.04		
2	.65	.31	.45	1.7	1.1	1.0	2.1	.80	.77	.01		
3	.65	.31	.40	8.6	1.1	1.0	2.0	.81	.73	.01		
4	.65	.31	.47	4.7	1.1	1.1	1.9	.80	.58	0		
5	.51	.31	.51	2.8	1.1	.98	1.8	.79	.56	0		
6	.40	.28	.59	5.3	1.1	.91	1.7	.84	.56	0		
7	.40	.29	.65	9.7	1.1	.93	1.7	.87	.56	0		
8	.31	.35	.65	7.6	1.1	.96	1.7	1.6	.62	0		
9	.24	.34	.65	4.1	1.2	.96	1.7	47	.73	0		
10	.24	.31	.65	2.9	1.1	.96	1.9	23	.81	0		
11	.18	.37	.68	2.4	1.1	.96	1.9	11	.71	0		
12	.18	.72	.83	2.1	.99	.92	2.0	7.2	.70	0		
13	.16	.71	.75	1.9	.75	.90	2.0	6.0	.73	0		
14	.14	.71	.66	1.7	.85	.95	2.0	4.6	.68	0		
15	.17	.74	.70	1.6	.96	.96	1.9	4.0	.55	0		
16	.23	.51	.73	1.5	1.0	1.1	1.9	3.5	.39	0		
17	.22	.40	.65	1.3	1.1	2.0	1.9	3.0	.25	0		
18	.27	.40	.65	1.3	.96	1.8	2.0	2.7	.20	0		
19	.36	.47	.71	1.3	.97	1.5	1.9	2.5	.16	0		
20	.38	.47	.75	1.3	.98	1.4	1.7	2.3	.16	0		
21	.35	.47	.75	1.3	1.1	1.4	1.6	2.0	.21	0		
22	.40	.50	.72	1.3	1.2	1.3	1.5	1.8	.20	0		
23	.47	.51	.75	1.3	1.2	1.3	1.3	1.8	.19	0		
24	.43	.51	.82	1.3	1.4	1.3	1.2	1.9	.16	0		
25	.46	.59	.85	1.2	1.7	4.0	1.2	2.0	.11	0		
26	.43	.65	.85	1.2	1.3	3.8	1.2	1.8	.07	0		
27	.37	.73	.85	1.2	1.2	2.7	1.3	1.6	.09	0		
28	.31	.69	.85	1.2	1.1	2.5	1.3	1.4	.04	0		
29	.31	.51	.85	1.2	---	2.6	1.3	1.3	.03	0		
30	.31	.40	.96	1.3	---	2.3	.71	1.1	.01	0		
31	.29	---	2.2	1.3	---	2.2	---	1.1	---	0		---
TOTAL	11.12	14.17	22.98	79.8	31.06	47.69	50.51	141.86	12.49	.06	0	0
MEAN	.36	.47	.74	2.57	1.11	1.54	1.68	4.58	.42	.002	0	0
MAX	.65	.74	2.2	9.7	1.7	4.0	2.2	.47	.93	.04	0	0
MIN	.14	.28	.40	1.2	.75	.90	.71	.75	.01	0	0	0
AC-FT	22	28	46	158	62	95	100	281	25	.1	0	0
CAL YR 1976	TOTAL	550.64	MEAN	1.50	MAX	97	MIN	0	AC-FT	1090		
WTR YR 1977	TOTAL	411.74	MEAN	1.13	MAX	47	MIN	0	AC-FT	817		

## 11042500 TEMECULA CREEK AT VAIL DAM, CA

LOCATION.--Lat 33°29'44", long 116°58'33", in Pauba Grant, Riverside County, at Vail Dam 0.2 mi (0.3 km) downstream from Arroyo Seco, and 10 mi (16 km) east of Temecula.

DRAINAGE AREA.--320 mi<sup>2</sup> (829 km<sup>2</sup>).

PERIOD OF RECORD.--October 1948 to current year. January 1923 to October 1930 at site 200 ft (61 m) downstream and October 1930 to September 1948 at site 500 ft (152 m) downstream published as "at Nigger Canyon, near Temecula"; records not equivalent owing to change in natural water loss resulting from creation of Vail Lake. October 1948 to September 1951 published as "at Nigger Canyon, near Temecula"; records are for draft and spill only from Vail Lake. October 1951 to September 1955, published as "at Vail Dam, near Temecula."

GAGE.--Two water-stage recorders. Main gage on lake. National Weather Service type nonrecording rain gage 0.2 mi (0.3 km) upstream. Supplemental gage at site 500 ft (152 m) downstream measures release and spill at different datum. Datum of main gage is 1,350.0 ft (411.48 m) above mean sea level (levels by Bureau of Reclamation); gage readings have been reduced to elevations above mean sea level.

REMARKS.--Records poor. Discharges represent all water reaching Vail Lake, including precipitation on lake surface. Discharge computed on basis of records of storage, release (draft), spill, and evaporation. Monthly evaporation from lake surface computed on basis of evaporation from a class A evaporation pan using coefficient of 0.77, excepting the period June 1964 to September 1965, when a 24-inch (0.61-meter) diameter sunken screen pan with a coefficient of 0.98 was used. Area-capacity tables for lake are based on a survey made in 1947. Vail Dam completed in June 1949. Capacity of lake at spillway level, 49,370 acre-ft (60.9 hm<sup>3</sup>), elevation, 1,470.00 ft (448.056 m). Dead storage, 2.4 acre-ft (2,960 m<sup>3</sup>) below lowest outlet at elevation 1,352.5 ft (412.24 m) included in these records. There has been no spill since Nov. 13, 1948, date of closure. Water is released as required down Temecula Creek for diversion about 1 mi (1.6 km) below dam. Monthly precipitation, in inches, from National Weather Service type nonrecording rain gage is as follows: October, 0.05 (0.13 cm); November, 0.76 (1.93 cm); December, 2.04 (5.18 cm); January, 1.00 (2.54 cm); February, 0.47 (1.19 cm); March, 1.51 (3.84 cm); May, 2.13 (5.41 cm); August, 2.65 (6.73 cm); the current year, 10.61 (26.95 cm).

AVERAGE DISCHARGE.--25 years (water years 1924-48), 14.5 ft<sup>3</sup>/s (0.411 m<sup>3</sup>/s), 10,500 acre-ft/yr (12.9 hm<sup>3</sup>/yr), see PERIOD OF RECORD; 29 years (water years 1949-77), 5.16 ft<sup>3</sup>/s (0.146 m<sup>3</sup>/s), 3,740 acre-ft/yr (4.61 hm<sup>3</sup>/yr).

## MONTHLY DISCHARGE, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

Date	Elevation at 2400 (feet)	Contents (acre- feet)	Change in contents (acre- feet)	Draft (acre- feet) <sup>b</sup>	Evapo- ration (acre- feet)	Discharge (acre- feet)
Vail Lake						
Sept. 30.....	1432.27	17720	--	--	--	--
Oct. 31.....	1431.92	17510	-210	0	253	43
Nov. 30.....	<sup>a</sup> 1431.76	17420	-90	0	185	95
Dec. 31.....	1431.72	17390	-30	0	143	113
CAL YR 1976.....	--	--	-990	0	3129	2139
Jan. 31.....	1431.91	17510	+120	0	43	163
Feb. 28.....	1431.94	17520	+10	0	159	169
Mar. 31.....	1431.92	17510	-10	0	178	168
Apr. 30.....	1431.72	17390	-120	0	267	147
May 31.....	1431.73	17400	+10	0	217	227
June 30.....	1431.29	17140	-260	0	348	88
July 31.....	1430.59	16730	-410	0	458	48
Aug. 31.....	1430.38	16610	-120	0	350	230
Sept. 30.....	1429.88	16320	-290	0	302	12
WTR YR 1977.....	--	--	-1400	0	2903	1503

<sup>a</sup> Estimated.

<sup>b</sup> Draft, in acre-feet, was all direct pumping from lake. Records of pumping furnished by Rancho California.

NOTE.--For months when inflow to the lake was small and other quantities were large, discordant figures of discharge may appear. This arises primarily from the difficulty of computing discharge as a residual of several larger quantities, which are not susceptible to measurement with a precision necessary to produce a final answer within desirable limits of accuracy.

## 11043000 MURRIETA CREEK AT TEMECULA, CA

LOCATION.--Lat 33°28'47", long 117°08'35", in Temecula Grant, Riverside County, on right bank 0.4 mi (0.6 km) upstream from mouth, and 1.0 mi (1.6 km) south of Temecula.

DRAINAGE AREA.--222 mi<sup>2</sup> (575 km<sup>2</sup>)

PERIOD OF RECORD.--October 1924 to current year. Monthly discharge only October 1924 to September 1930, published in WSP 1315-B.

GAGE.--Water-stage recorder. Altitude of gage is 970 ft (296 m), from topographic map. See WSP 1735 for history of changes prior to Dec. 16, 1938.

REMARKS.--Records poor. No regulation above station. Pumping above station for irrigation of about 2,500 acres (10.1 km<sup>2</sup>).

AVERAGE DISCHARGE.--53 years, 8.29 ft<sup>3</sup>/s (0.235 m<sup>3</sup>/s), 6,010 acre-ft/yr (7.41 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,500 ft<sup>3</sup>/s (496 m<sup>3</sup>/s) Jan. 23, 1943, gage height, 13.82 ft (4.212 m); minimum daily, 0.02 ft<sup>3</sup>/s (0.001 m<sup>3</sup>/s) at times in 1969, no flow Dec. 11, 1976 because of upstream channel work.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 55 ft<sup>3</sup>/s (1.56 m<sup>3</sup>/s) and maximum (\*), from rating curve extended above 65 ft<sup>3</sup>/s (1.84 m<sup>3</sup>/s) on basis of slope-area measurement at 1500 ft<sup>3</sup>/s (42.5 m<sup>3</sup>/s):

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)		Gage height (ft) (m)	
Jan. 3	0400	71	2.01	2.34	0.713
Jan. 6	0600	*308	8.72	3.61	1.100

Minimum daily discharge, no flow Dec. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.45	.34	.34	1.5	.70	.46	.60	.60	.24	.46	.24	.21
2	.45	.34	.34	1.3	2.7	.52	.68	.60	.24	.46	.21	.21
3	.45	.29	.39	17	.58	.46	.60	.52	.24	.46	.21	.18
4	.39	.34	.39	3.1	.50	.46	.46	.46	.34	.46	.21	.18
5	.39	.34	.39	2.5	.45	.52	.46	.46	.39	.39	.21	.15
6	.39	.34	.39	102	.41	.52	.46	.46	.39	.39	.21	.12
7	.39	.39	.39	16	.38	.52	.46	.46	.39	.34	.21	.12
8	.34	.39	.39	6.3	.37	.60	.46	10	.39	.29	.21	.12
9	.34	.39	.39	3.0	.35	.60	.46	35	.39	.29	.21	.12
10	.34	.39	.18	2.0	.34	.60	.46	4.5	.34	.29	.21	.12
11	.34	.39	0	1.5	.33	.60	.46	.52	.34	.24	.21	.12
12	.34	2.4	.74	1.1	.32	.60	.46	.75	.39	.24	.21	.12
13	.34	.46	.15	.95	.31	.60	.46	.48	.34	.21	.12	.12
14	.34	.29	.09	.82	.30	.60	.46	.21	.34	.21	.18	.12
15	.34	.29	.09	.75	.30	.60	.46	.24	.34	.21	.18	.15
16	.34	.34	1.3	.67	.30	.84	.46	.24	.46	.18	1.3	.15
17	.34	.29	.52	.61	.30	.76	.46	.15	.52	.18	8.0	.15
18	.34	.29	.39	.56	.30	.68	.46	.12	.46	.18	2.7	.15
19	.34	.24	.39	.52	.30	.68	.46	.12	.68	.21	.76	.15
20	.34	.29	.39	.48	.30	.68	.39	.10	.68	.24	.39	.15
21	.34	.34	.39	.45	.30	.68	.39	.12	.68	.24	.34	.15
22	.39	.29	.34	.42	.31	.76	.39	.12	.60	.24	.34	.18
23	.39	.29	.34	.40	.33	.76	.39	.18	.52	.24	.29	.18
24	2.8	.29	.34	.38	2.4	.84	.39	.21	.52	.24	.24	.18
25	.76	.29	.34	.37	1.0	5.7	.39	.15	.52	.24	.21	.18
26	.52	.34	.39	.36	.45	1.1	.39	.15	.46	.24	.24	.21
27	.39	.34	.34	.35	.40	.68	.46	.18	.46	.21	.21	.21
28	.39	.34	.34	.35	.39	.60	.46	.18	.46	.21	.21	.24
29	.34	.29	.39	.35	---	.52	.46	.18	.46	.21	.21	.24
30	.34	.29	3.5	.35	---	.52	.46	.18	.52	.21	.21	.34
31	.34	---	6.4	.35	---	.52	---	.21	---	.24	.21	---
TOTAL	14.33	11.93	20.76	166.79	15.42	24.58	13.81	57.85	13.22	8.58	18.98	5.02
MEAN	.46	.40	.67	5.38	.55	.79	.46	1.87	.44	.28	.61	.17
MAX	2.8	2.4	6.4	102	2.7	5.7	.68	35	.68	.46	8.0	.34
MIN	.34	.24	0	.35	.30	.46	.39	.10	.24	.18	.18	.12
AC-FT	28	24	41	331	31	49	27	115	26	17	38	10.0

CAL YR 1976	TOTAL	716.87	MEAN	1.96	MAX	274	MIN	0	AC-FT	1420
WTR YR 1977	TOTAL	371.27	MEAN	1.02	MAX	102	MIN	0	AC-FT	736

LOCATION.--Lat 33°28'26", long 117°08'29", in Temecula Grant, Riverside County, on left bank at upper end of Temecula Canyon, 0.1 mi (0.2 km) downstream from Murrieta Creek, 1.4 mi (2.3 km) south of Temecula, and 10 mi (16 km) downstream from Vail Lake.

PERIOD OF RECORD.--January 1923 to current year. Prior to October 1952, published as Temecula Creek at Railroad Canyon, near Temecula.

GAGE.--Water-stage recorder and crest-stage gage. Altitude of gage is 950 ft (290 m), from topographic map. Prior to Nov. 3, 1966, at site 100 ft (30.5 m) downstream at same datum.

REMARKS.--Records good below 60 ft<sup>3</sup>/s (1.70 m<sup>3</sup>/s) and fair above. Flow partly regulated since November 1948 by Vail Lake (station 11042500). Pumping above station for irrigation.

AVERAGE DISCHARGE.--25 years (water years 1924-48), unregulated, 28.2 ft<sup>3</sup>/s (0.799 m<sup>3</sup>/s), 20,420 acre-ft/yr (25.2 hm<sup>3</sup>/yr); 29 years (water years 1949-77), 9.35 ft<sup>3</sup>/s (0.265 m<sup>3</sup>/s), 6,770 acre-ft/yr (8.35 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 25,000 ft<sup>3</sup>/s (708 m<sup>3</sup>/s) Feb. 16, 1927, gage height, 14.6 ft (4.45 m), at site 100 ft (30.5 m) downstream, from rating curve extended above 10,000 ft<sup>3</sup>/s (283 m<sup>3</sup>/s); minimum daily, 0.30 ft<sup>3</sup>/s (0.009 m<sup>3</sup>/s) Aug. 18-22, 1965, regulation by construction work above station.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 333 ft<sup>3</sup>/s (9.43 m<sup>3</sup>/s) Jan. 6, gage height, 4.29 ft (1.308 m), from rating curve extended above 60 ft/s (1.70 m/s) on basis of estimate of maximum flow; minimum daily, 0.97 ft<sup>3</sup>/s (0.027 m<sup>3</sup>/s) July 27 and 28.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.3	2.0	2.0	4.5	2.8	2.2	2.6	2.4	1.9	1.6	1.3	1.7
2	2.5	2.0	2.0	3.3	4.5	2.3	2.6	2.4	1.9	1.5	1.3	1.4
3	2.4	2.0	2.0	35	2.5	2.1	2.7	2.3	1.7	1.6	1.5	1.5
4	2.2	1.5	2.0	5.2	2.4	2.1	2.1	2.2	1.9	1.6	1.2	1.4
5	2.2	1.7	2.1	4.8	2.6	2.1	2.1	2.2	2.0	1.5	1.1	1.4
6	2.1	1.7	2.0	138	2.4	2.1	2.1	2.3	1.8	1.5	1.3	1.4
7	2.0	1.9	2.0	38	2.6	2.1	2.1	2.2	1.9	1.5	1.3	1.8
8	1.9	1.9	2.1	11	2.5	2.2	2.1	19	2.0	1.5	1.3	1.0
9	1.8	1.4	2.1	5.3	2.1	2.2	2.3	68	2.1	1.6	1.3	1.2
10	1.7	1.8	2.0	4.2	2.2	2.2	2.3	10	2.0	1.4	1.4	1.4
11	1.6	1.8	1.6	3.8	2.2	2.1	2.3	4.1	1.9	1.5	1.4	1.4
12	1.7	7.3	2.3	3.4	2.2	2.2	2.3	3.0	2.0	1.5	1.4	1.4
13	1.9	2.7	2.1	3.2	2.1	2.2	2.6	3.5	1.9	1.5	1.4	1.4
14	1.9	2.2	1.9	3.0	2.1	2.2	2.7	3.0	1.9	1.4	1.4	1.5
15	2.0	2.2	2.0	2.9	2.0	2.0	2.7	2.8	2.0	1.2	1.4	1.5
16	2.0	2.1	2.8	2.7	2.0	2.9	2.7	2.6	1.9	1.4	2.1	1.5
17	2.0	2.0	2.3	2.7	2.0	2.9	2.6	2.4	1.7	1.2	12	1.5
18	2.0	2.1	2.2	2.7	2.1	2.4	2.6	2.3	1.7	1.3	3.1	1.5
19	2.0	2.0	2.1	2.7	2.0	2.4	2.7	2.2	1.7	1.4	2.0	1.5
20	2.1	1.9	2.1	2.5	2.0	2.4	2.9	2.1	1.6	1.7	1.8	1.4
21	2.1	2.2	2.2	2.5	2.1	2.2	2.7	2.0	1.8	1.4	1.7	1.5
22	2.2	2.1	2.1	2.5	2.1	2.2	3.3	2.0	1.6	1.5	1.7	1.7
23	2.3	2.1	2.1	2.5	2.3	2.2	2.0	2.0	1.7	1.4	1.6	1.3
24	4.9	1.9	2.1	2.7	4.0	2.6	2.5	1.9	1.7	1.5	1.5	1.5
25	2.4	2.1	2.1	2.2	3.0	15	2.5	1.9	1.7	1.4	1.5	1.4
26	2.1	2.2	2.1	2.5	2.3	3.8	2.6	1.9	1.6	1.2	1.7	1.6
27	2.0	2.0	2.1	2.4	2.1	2.8	2.6	1.9	1.5	.97	1.4	1.5
28	2.0	2.1	2.2	2.4	2.2	2.6	2.5	1.9	1.5	.97	1.5	1.5
29	1.9	1.8	2.2	2.4	---	2.6	2.5	1.9	1.5	1.1	1.5	1.5
30	2.0	2.0	5.7	2.4	---	2.3	2.5	1.9	1.4	1.1	1.5	1.5
31	1.9	---	11	2.4	---	2.3	---	1.9	---	1.1	1.5	---
TOTAL	66.1	64.7	77.6	305.8	67.4	85.9	74.8	162.2	53.5	43.04	58.1	43.8
MEAN	2.13	2.16	2.50	9.86	2.41	2.77	2.49	5.23	1.78	1.39	1.87	1.66
MAX	4.9	7.3	11	138	4.5	15	3.3	68	2.1	1.7	12	1.8
MIN	1.6	1.4	1.6	2.2	2.0	2.0	2.0	1.9	1.4	.97	1.1	1.0
AC-FT	131	128	154	607	134	170	148	322	106	85	115	87
CAL YR 1976	TOTAL	1499.40	MEAN	4.10	MAX	317	MIN	1.3	AC-FT	2970		
WTR YR 1977	TOTAL	1102.94	MEAN	3.02	MAX	138	MIN	.97				

## SANTA MARGARITA RIVER BASIN

11044500 SANTA MARGARITA RIVER NEAR FALLBROOK, CA

LOCATION.--Lat 33°23'54", long 117°15'44", in NE¼SE¼NE¼ sec.14, T.9 S., R.4 W., San Diego County, on right bank 180 ft (55 m) upstream from De Luz Road, 1.3 mi (2.1 km) northwest of Fallbrook, and 1.9 mi (3.1 km) downstream from Sandia Canyon.

DRAINAGE AREA.--644 mi<sup>2</sup> (1,668 km<sup>2</sup>).

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1924 to current year. Monthly discharge only for October and November 1924, published in WSP 1315-B.

REVISED RECORDS.--WDR CA-72-1: 1971.

GAGE.--Water-stage recorder. Concrete-road control since October 1955. Datum of gage is 267.96 ft (81.674 m) above mean sea level (levels by Bureau of Reclamation). Prior to Oct. 1, 1955, at site 1.7 mi (2.7 km) upstream at different datum. Records equivalent except for extreme low flows.

REMARKS.--Records fair. Flow partly regulated since November 1948 by Vail Lake (station 11042500). Several small diversions above station for irrigation. The Fallbrook Public Utility District reports no water pumped during the current year from a well in the streambed 2.1 mi (3.4 km) upstream from the station.

AVERAGE DISCHARGE.--24 years (water years 1925-48), unregulated, 35.4 ft<sup>3</sup>/s (1.003 m<sup>3</sup>/s), 25,630 acre-ft/yr (31.6 hm<sup>3</sup>/yr); 29 years (water years 1949-77), 11.5 ft<sup>3</sup>/s (0.326 m<sup>3</sup>/s), 8,330 acre-ft/yr (10.3 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 33,100 ft<sup>3</sup>/s (937 m<sup>3</sup>/s) Feb. 16, 1927, gage height, 15.6 ft (4.75 m), site and datum then in use, from rating curve extended above 8,800 ft<sup>3</sup>/s (249 m<sup>3</sup>/s) on basis of slope-area measurement of maximum flow; no flow at times in recent years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 416 ft<sup>3</sup>/s (11.8 m<sup>3</sup>/s) Jan. 6, gage height, 7.20 ft (2.195 m); no flow Aug. 6-17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.8	1.0	2.3	13	4.5	4.5	4.9	2.3	1.0	.30	.05	.40
2	2.1	1.0	2.3	5.7	12	4.5	5.3	2.2	.70	.30	.05	.40
3	2.2	1.0	2.3	83	7.0	4.5	5.0	2.1	.70	.30	.05	.40
4	2.0	1.0	2.3	18	5.0	4.5	4.6	2.0	.70	.30	.05	.40
5	1.7	1.0	2.3	9.0	5.0	4.5	4.1	2.0	.84	.30	.05	.40
6	1.7	1.0	2.3	211	5.0	4.2	3.9	2.8	1.3	.30	0	.40
7	1.5	1.0	2.3	103	5.0	4.2	3.7	2.4	1.6	.30	0	.40
8	1.3	1.3	2.2	40	5.0	4.2	3.5	14	1.8	.30	0	.40
9	1.1	1.4	2.3	16	5.0	4.2	3.6	103	2.4	.20	0	.40
10	1.0	1.5	2.3	11	5.0	4.2	3.8	23	3.1	.20	0	.40
11	1.0	1.5	2.3	9.3	4.5	4.0	3.6	5.2	1.7	.20	0	.40
12	1.1	8.5	2.0	8.5	4.5	4.2	6.2	3.0	1.4	.20	0	.40
13	1.2	3.0	2.3	8.0	4.5	4.3	4.9	4.2	1.6	.20	0	.40
14	1.3	2.5	2.4	7.4	4.5	4.3	3.9	2.5	1.6	.20	0	.40
15	1.3	2.3	2.3	6.6	4.5	4.3	3.5	2.0	1.3	.20	0	.40
16	1.4	2.3	2.1	6.3	4.5	4.9	3.3	2.1	1.2	.15	0	.40
17	1.4	2.3	2.4	5.6	4.5	7.4	3.2	2.4	1.1	.15	0	.40
18	1.5	2.3	2.8	5.1	4.0	5.5	3.1	2.1	1.1	.15	8.4	.40
19	1.6	2.3	2.7	5.2	4.0	4.8	3.1	1.9	1.0	.15	3.4	.40
20	1.6	2.3	2.7	5.1	4.0	4.6	2.7	1.7	1.0	.15	2.6	.40
21	1.5	2.3	2.7	5.3	4.0	4.5	2.6	1.5	1.3	.10	2.2	.40
22	23	2.3	2.6	5.1	4.0	4.1	2.5	1.5	1.3	.10	1.8	.40
23	10	2.3	2.7	4.9	4.0	4.0	2.5	1.5	1.2	.10	1.4	.40
24	4.2	2.3	2.7	4.7	10	4.2	2.5	2.0	1.0	.10	1.1	.40
25	4.0	2.3	2.7	4.7	5.0	28	2.4	1.8	.90	.10	.90	.40
26	2.6	2.3	2.7	4.7	4.5	13	2.4	1.4	.60	.10	.75	.40
27	1.8	2.3	2.6	4.9	4.5	7.2	2.4	1.2	.50	.10	.60	.40
28	1.0	2.3	2.5	4.7	4.5	5.9	2.4	1.2	.40	.10	.52	.40
29	1.0	2.3	2.5	4.7	---	5.3	2.3	1.3	.35	.10	.48	.40
30	1.0	2.3	3.3	4.7	---	5.0	2.3	1.2	.30	.10	.44	.40
31	1.0	---	16	4.5	---	4.8	---	1.1	---	.10	.42	---
TOTAL	80.9	63.5	89.9	629.7	142.5	177.8	104.2	198.6	34.99	5.65	25.26	12.00
MEAN	2.61	2.12	2.90	20.3	5.09	5.74	3.47	6.41	1.17	.18	.81	.40
MAX	23	8.5	16	211	12	28	6.2	103	3.1	.30	8.4	.40
MIN	1.0	1.0	2.0	4.5	4.0	4.0	2.3	1.1	.30	.10	0	.40
AC-FT	160	126	178	1250	283	353	207	394	69	11	50	24
CAL YR 1976	TOTAL	1975.30	MEAN 5.40	MAX 321	MIN 0	AC-FT 3920						
WTR YR 1977	TOTAL	1565.00	MEAN 4.29	MAX 211	MIN 0	AC-FT 3100						



11044500 SANTA MARGARITA RIVER NEAR FALLBROOK, CA--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: Water years 1967 to current year.

COOPERATION.--Chemical-quality records were furnished by California Department of Water Resources.

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)
OCT 01...	1640	1.8	1660	8.1	19.0	4	7.7	190	130	49	150
JAN 13...	1015	8.0	1490	8.1	9.0	25	10.8	230	110	49	130
MAR 31...	1525	4.8	1480	8.2	11.5	5	11.5	190	110	43	130
JUN 10...	1910	3.1	1500	8.2	19.0	20	8.0	200	120	51	120
SEP 30...	1315	.40	1730	7.9	20.0	--	6.0	--	--	--	--

DATE	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	ALKA- LITY AS CAC03 (MG/L)	CARBON DIOXIDE (CO2) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)
OCT 01...	38	2.8	4.0	400	0	330	5.1	200	220	.7
JAN 13...	37	2.6	5.0	320	0	260	4.1	220	190	.5
MAR 31...	38	2.7	3.0	320	0	260	3.2	180	180	.5
JUN 10...	34	2.3	3.0	370	--	300	3.7	190	180	.5
SEP 30...	--	--	--	--	--	--	--	--	--	--

DATE	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	DIS- SOLVED SOLIDS (TONS PER AC-FT)	DIS- SOLVED SOLIDS (TONS PER DAY)	DIS- SOLVED NITRATE (N) (MG/L)	DIS- SOLVED NITRATE (NO3) (MG/L)	TOTAL ORGANIC NITRO- GEN (N) (MG/L)	DIS- SOLVED ORTHO. PHOS- PHORUS (P) (MG/L)	DIS- SOLVED ORTHO. PHOS- PHATE (PO4) (MG/L)	DIS- SOLVED BORON (B) (UG/L)	TOTAL ORGANIC CARBON (C) (MG/L)
OCT 01...	1070	1.46	5.20	.07	.30	--	--	--	250	--
JAN 13...	950	1.29	20.5	1.3	5.6	--	--	--	140	--
MAR 31...	900	1.22	11.7	.18	.80	.37	.07	.21	310	--
JUN 10...	895	1.22	7.49	.00	.00	.36	.12	.37	120	5.9
SEP 30...	--	--	--	.05	.20	.49	.13	.40	--	--

## SANTA MARGARITA RIVER BASIN

11046000 SANTA MARGARITA RIVER AT YSIDORA, CA

LOCATION.--Lat 33°14'13", long 117°23'14", in NE¼SW¼NE¼ sec.10, T.11 S., R.5 W., San Diego County, on Camp Joseph H. Pendleton Naval Reservation, on left bank 1.7 mi (2.7 km) upstream from mouth at Pacific Ocean, and 2.0 mi (3.2 km) southwest of Ysidora.

DRAINAGE AREA.--740 mi<sup>2</sup> (1,917 km<sup>2</sup>).

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--February 1923 to current year.

GAGE.--Water-stage recorder. Datum of gage is 5.00 ft (1.524 m) below mean sea level (U.S. Navy reference mark). See WSP 1735 for history of changes prior to Nov. 27, 1935. Nov. 27, 1935, to Feb. 25, 1970, at site 0.8 mi (1.3 km) upstream at different datum.

REMARKS.--Records poor, no flow since Apr. 15, 1974. Flow partly regulated by Vail Lake since November 1948 (station 11042500). Diversions for irrigation on Rancho California (formerly Santa Margarita Ranch and Pauba Ranch). Large conservation pools, starting 0.5 mi (0.8 km) upstream can detain flow. AVERAGE DISCHARGE represents flow to ocean during period of record, regardless of upstream development.

AVERAGE DISCHARGE.--54 years, 25.5 ft<sup>3</sup>/s (0.722 m<sup>3</sup>/s), 18,470 acre-ft/yr (22.8 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 33,600 ft<sup>3</sup>/s (952 m<sup>3</sup>/s) Feb. 16, 1927, gage height, 18.00 ft (5.486 m), site and datum then in use, on basis of slope-area measurement of maximum flow; no flow for all or part of most years.

EXTREMES FOR CURRENT YEAR.--No flow since April 15, 1974.

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1969 to current year.

WATER TEMPERATURES: Water years 1969 to current year.

SEDIMENT RECORDS: Water years 1969 to current year.

PERIOD OF DAILY RECORD.--

SEDIMENT RECORDS: October 1968 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 13,000 mg/l Feb. 24, 1969; minimum daily mean, no flow for many days each year.

SEDIMENT DISCHARGE: Maximum daily, 534,000 tons (484,000 tonnes) Feb. 24, 1969; minimum daily, 0 tons on many days each year.

EXTREMES FOR CURRENT YEAR.--

SEDIMENT DISCHARGE: No flow since Apr. 15, 1974.

LOCATION.--Lat 33°17'32", long 117°27'21", in NW¼SE¼ sec.24, T.10 S., R.6 W., San Diego County, Camp Joseph H. Pendleton Naval Reservation, on upstream side and at center of bridge on Atchison, Topeka, and Santa Fe Railway, 0.5 mi (0.8 km) upstream from mouth, and 8.5 mi (13.7 km) northwest of Oceanside.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 14.0 ft<sup>3</sup>/s (0.396 m<sup>3</sup>/s) Jan. 6, gage height, 0.73 ft (0.223 m), no peak above base of 100 ft<sup>3</sup>/s (2.83 m<sup>3</sup>/s); no flow many days.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			0	.01	.01	.01	.01	0			0	
2			0	.01	.01	.01	.01	0			0	
3			0	.02	.01	.01	.01	0			0	
4			0	.01	.01	.01	.01	0			0	
5			0	.01	.01	.01	.01	0			0	
6			0	4.2	.01	.01	.01	0			0	
7			0	.59	.01	.01	.01	0			0	
8			0	.04	.01	.01	.01	.02			0	
9			0	.02	.01	.01	.01	.02			0	
10			0	.02	.01	.01	.01	.01			0	
11			0	.02	.01	.01	.01	0			0	
12			0	.02	.01	.01	.01	0			0	
13			0	.01	.01	.01	.01	0			0	
14			0	.01	.01	.01	.01	0			0	
15			0	.01	.01	.01	.01	0			0	
16			0	.01	.01	.01	0	0			.01	
17			0	.01	.01	.01	0	0			.08	
18			0	.01	.01	.01	0	0			.02	
19			0	.01	.01	.01	0	0			.01	
20			0	.01	.01	.01	0	0			0	
21			0	.01	.02	.01	0	0			0	
22			0	.01	.02	.01	0	0			0	
23			0	.01	.02	.01	0	0			0	
24			0	.01	.03	.01	0	.01			0	
25			0	.01	.01	.78	0	.01			0	
26			0	.01	.01	.01	0	0			0	
27			0	.01	.01	.01	0	0			0	
28			0	.01	.01	.01	0	0			0	
29			0	.01	---	.01	0	0			0	
30			.01	.01	---	.01	0	0			0	
31		---	.01	.01	---	.01	---	0	---		0	---
TOTAL	0	0	.02	5.16	.33	1.08	.15	.67	0	0	.12	0
MEAN	0	0	.0006	.17	.012	.035	.005	.002	0	0	.004	0
MAX	0	0	.01	4.2	.03	.78	.01	.02	0	0	.08	0
MIN	0	0	0	.01	.01	.01	0	0	0	0	0	0
AC-FT	0	0	.04	10	.7	2.1	.3	.1	0	0	.2	0
CAL YR 1976	TOTAL 3.49		MEAN .010	MAX .17	MIN 0	AC-FT 6.9						
WTR YR 1977	TOTAL 6.93		MEAN .019	MAX 4.2	MIN 0	AC-FT 14						

## SAN JUAN CREEK BASIN

11046550 SAN JUAN CREEK AT SAN JUAN CAPISTRANO, CA

LOCATION.--Lat 33°29'30", long 117°39'44", in SW¼SE¼NE¼ sec.12, T.8 S., R.8 W., Orange County, on left bank at Camino Capistrano bridge, 0.2 mi (0.3 km) upstream from Arroyo Trabuco, and 0.6 mi (1.0 km) south of San Juan Capistrano.

DRAINAGE AREA.--117 mi<sup>2</sup> (303 km<sup>2</sup>).

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1969 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 67 ft (20 m).

REMARKS.--Records poor. No regulation above station. Capistrano Water Co. diverts 3.0 mi (4.8 km) upstream. Various amounts of diverted water reach station as irrigation return flow and rising ground water. Data for San Juan Creek near San Juan Capistrano (11046500) previously collected at site 2.8 mi (4.5 km) upstream was published as creek only and combined.

COOPERATION.--Seven discharge measurements were furnished by Orange County Flood Control District.

AVERAGE DISCHARGE.--8 years, 3.27 ft<sup>3</sup>/s (0.093 m<sup>3</sup>/s), 2,370 acre-ft/yr (2.92 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 445 ft<sup>3</sup>/s (12.6 m<sup>3</sup>/s) Feb. 11, 1973, gage height, 4.35 ft (1.326 m); no flow at times in some years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Feb. 25, 1969, 22,400 ft<sup>3</sup>/s (634 m<sup>3</sup>/s), at site 2.8 mi (4.5 km) upstream, as station 11046500.

EXTREMES FOR CURRENT YEAR.--Maximum discharge recorded, 94 ft<sup>3</sup>/s (2.66 m<sup>3</sup>/s) May 8, gage height, 2.28 ft (0.695 m), but may have been higher during period of no gage-height record Aug. 16-17. No peak above base of 200 ft<sup>3</sup>/s (5.66 m<sup>3</sup>/s); minimum daily, 0.20 ft<sup>3</sup>/s (0.006 m<sup>3</sup>/s) June 28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.1	1.1	.80	1.4	1.3	.89	.89	.99	2.0	.26	.80	.65
2	3.5	1.3	.45	2.3	1.3	.89	1.2	.89	2.0	.32	1.1	.65
3	1.7	1.4	.65	6.0	1.3	.89	1.2	.99	2.0	.45	1.2	.72
4	1.4	1.4	.80	2.0	1.3	.99	1.2	1.0	1.9	.73	1.2	.65
5	1.3	1.7	.72	2.2	1.3	1.3	1.2	.99	1.6	1.1	1.1	.58
6	1.3	1.7	.89	15	1.1	1.3	.89	.99	1.3	.99	1.2	.65
7	1.3	1.3	1.1	13	1.2	1.3	.89	.91	1.3	.99	1.1	.65
8	1.2	1.2	1.2	3.2	1.1	1.1	.99	11	1.2	1.1	1.2	.65
9	1.2	.99	1.1	2.4	1.1	.99	.89	3.2	1.3	.89	1.3	.65
10	1.2	.99	.89	2.2	1.1	.89	.80	1.5	1.1	.80	1.2	.65
11	1.3	1.4	.80	2.0	1.1	.89	.72	1.3	1.2	.80	1.1	.65
12	1.6	3.1	.89	2.0	1.1	.89	.80	1.3	1.3	.89	1.2	.65
13	1.7	1.3	.90	1.9	.99	.89	.89	1.1	.99	.89	1.1	.65
14	1.7	1.2	.99	1.9	1.1	.80	.89	.80	.99	.99	1.5	.65
15	1.7	1.2	1.4	1.9	.99	.72	.89	.99	.99	.89	4.3	.65
16	1.6	.99	1.3	1.9	.89	3.3	.89	.99	1.1	.86	10	.58
17	1.4	1.1	1.4	1.7	.89	1.1	.99	.89	1.2	.89	30	.65
18	1.3	.77	1.5	1.7	.99	.80	.80	.89	.99	.89	5.0	.58
19	1.4	1.4	1.4	1.6	.99	.72	.80	.89	.89	.99	1.5	.65
20	1.6	1.2	1.3	1.7	.89	.72	.89	.89	1.1	.89	.99	.72
21	1.3	1.2	1.4	2.0	.80	.58	.99	1.2	1.1	.83	.80	.72
22	1.3	.99	1.5	2.0	.65	.72	1.1	1.4	.99	.67	.89	.65
23	1.3	.99	1.6	1.9	.72	.80	1.1	1.3	.80	.70	.80	.72
24	1.3	.99	2.1	1.9	4.4	.80	1.2	1.8	.65	.72	.72	.72
25	1.3	.99	2.0	1.9	1.1	4.0	.99	1.4	.51	.67	.80	.72
26	1.2	.99	1.7	1.9	.89	1.1	1.1	1.4	.35	.59	.89	.58
27	1.2	.99	2.0	1.7	.80	.99	1.4	1.6	.31	.45	.80	.73
28	1.1	.99	2.2	1.7	.89	.99	1.4	1.7	.20	.51	.89	.72
29	1.2	1.1	1.4	1.7	---	.80	1.2	2.2	.24	.72	.89	.72
30	1.3	.89	2.3	1.6	---	.80	1.2	2.2	.35	.65	.80	.72
31	1.1	---	2.9	1.4	---	.89	---	2.0	---	.80	.80	---
TOTAL	44.1	36.86	41.58	87.7	32.28	33.84	30.39	50.70	31.95	23.92	77.17	19.93
MEAN	1.42	1.23	1.34	2.83	1.15	1.09	1.01	1.64	1.07	.77	2.49	.66
MAX	3.5	3.1	2.9	15	4.4	4.0	1.4	11	2.0	1.1	30	.73
MIN	1.1	.77	.45	1.4	.65	.58	.72	.80	.26	.72	.58	.58
AC-FT	87	73	82	174	64	67	60	101	63	47	153	40

CAL YR 1976 TOTAL 573.17 MEAN 1.57 MAX 17 MIN .30 AC-FT 1140  
WTR YR 1977 TOTAL 510.42 MEAN 1.40 MAX 30 MIN .20 AC-FT 1010

WATER-QUALITY RECORDS

SEDIMENT RECORDS: October 1970 to current year.

SEDIMENT DISCHARGE: Maximum daily, 1,990 tons (1,810 tonnes) Feb. 11, 1973; minimum daily, 0 tons on many days during most years.

SEDIMENT DISCHARGE: Maximum daily, (estimated) 90 tons (82 tonnes), Aug. 17; minimum daily, 0.01 ton (0.01 tonne) Oct. 1 and Mar. 21.

[illegible]

## SAN JUAN CREEK BASIN

11046550 SAN JUAN CREEK AT SAN JUAN CAPISTRANO, CA--Continued

## SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	OCTOBER			NOVEMBER			DECEMBER		
	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	1.1	4	.01	1.1	96	.29	.80	50	.11
2	3.5	71	1.7	1.3	101	.35	.45	40	.05
3	1.7	10	.05	1.4	106	.40	.65	45	.08
4	1.4	6	.02	1.4	112	.42	.80	50	.11
5	1.3	6	.02	1.7	118	.54	.72	35	.07
6	1.3	15	.05	1.7	150	.69	.89	35	.08
7	1.3	24	.08	1.3	120	.42	1.1	25	.07
8	1.2	33	.11	1.2	110	.36	1.2	25	.08
9	1.2	42	.14	.99	100	.27	1.1	15	.04
10	1.2	42	.14	.99	100	.27	.89	15	.04
11	1.3	44	.15	1.4	114	.69	.80	50	.11
12	1.6	44	.19	3.1	126	2.3	.89	20	.05
13	1.7	46	.21	1.3	85	.30	.90	20	.05
14	1.7	46	.21	1.2	70	.23	.99	18	.05
15	1.7	48	.22	1.2	60	.19	1.4	30	.11
16	1.6	48	.21	.99	50	.13	1.3	18	.06
17	1.4	50	.19	1.1	60	.18	1.4	19	.07
18	1.3	52	.18	.77	50	.10	1.5	25	.10
19	1.4	54	.20	1.4	45	.29	1.4	19	.07
20	1.6	56	.24	1.2	25	.08	1.3	18	.06
21	1.3	58	.20	1.2	20	.06	1.4	18	.07
22	1.3	60	.21	.99	15	.04	1.5	25	.10
23	1.3	61	.21	.99	15	.04	1.6	25	.11
24	1.3	56	.20	.99	15	.04	2.1	20	.11
25	1.3	51	.18	.99	18	.05	2.0	16	.09
26	1.2	46	.15	.99	21	.06	1.7	12	.06
27	1.2	41	.13	.99	24	.06	2.0	25	.14
28	1.1	36	.11	.99	24	.06	2.2	15	.09
29	1.2	61	.20	1.1	31	.09	1.4	7	.03
30	1.3	86	.30	.89	34	.08	2.3	36	.50
31	1.1	91	.27	---	---	---	2.9	43	.61
TOTAL	44.1	---	6.48	36.86	---	9.08	41.58	---	3.37

DAY	JANUARY			FEBRUARY			MARCH		
	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	1.4	21	.08	1.3	52	.18	.89	28	.07
2	2.3	40	.59	1.3	56	.20	.89	26	.06
3	6.0	158	3.9	1.3	59	.21	.89	24	.06
4	2.0	16	.09	1.3	63	.22	.99	22	.06
5	2.2	25	.63	1.3	67	.24	1.3	30	.11
6	15	280	14	1.1	64	.19	1.3	27	.09
7	13	226	13	1.2	60	.19	1.3	24	.08
8	3.2	27	.23	1.1	56	.17	1.1	21	.06
9	2.4	14	.09	1.1	53	.16	.99	18	.05
10	2.2	6	.04	1.1	57	.17	.89	15	.04
11	2.0	21	.11	1.1	62	.18	.89	13	.03
12	2.0	36	.19	1.1	66	.20	.89	13	.03
13	1.9	51	.26	.99	65	.17	.89	13	.03
14	1.9	66	.34	1.1	68	.20	.80	13	.03
15	1.9	75	.38	.99	66	.18	.72	13	.03
16	1.9	71	.36	.89	66	.16	3.3	76	1.4
17	1.7	67	.31	.89	66	.16	1.1	47	.14
18	1.7	63	.29	.99	68	.18	.80	25	.05
19	1.6	57	.25	.99	80	.21	.72	9	.02
20	1.7	68	.31	.89	80	.19	.72	9	.02
21	2.0	79	.43	.80	80	.17	.58	8	.01
22	2.0	91	.49	.65	80	.14	.72	10	.02
23	1.9	85	.44	.72	80	.16	.80	10	.02
24	1.9	78	.40	4.4	131	3.0	.80	20	.04
25	1.9	71	.36	1.1	40	.12	4.0	72	1.3
26	1.9	64	.33	.89	38	.09	1.1	30	.09
27	1.7	57	.26	.80	36	.08	.99	20	.05
28	1.7	50	.23	.89	33	.08	.99	30	.08
29	1.7	47	.22	---	---	---	.80	32	.07
30	1.6	45	.19	---	---	---	.80	32	.07
31	1.4	49	.19	---	---	---	.89	32	.08
TOTAL	87.7	---	38.99	32.28	---	7.60	33.84	---	4.29

11046550 SAN JUAN CREEK AT SAN JUAN CAPISTRANO, CA--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	APRIL				MAY				JUNE			
	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)			
1	.89	32	.08	.99	40	.11	2.0	98	.53			
2	1.2	50	.16	.89	40	.10	2.0	102	.55			
3	1.2	32	.10	.99	40	.11	2.0	104	.56			
4	1.2	32	.10	1.0	50	.14	1.9	104	.53			
5	1.2	32	.10	.99	40	.11	1.6	102	.44			
6	.89	30	.07	.99	40	.11	1.3	100	.35			
7	.89	30	.07	.91	40	.10	1.3	100	.35			
8	.99	29	.08	11	268	31	1.2	98	.32			
9	.89	29	.07	3.2	79	1.0	1.3	96	.34			
10	.80	28	.06	1.5	40	.16	1.1	94	.28			
11	.72	28	.05	1.3	40	.14	1.2	112	.36			
12	.80	27	.06	1.3	40	.14	1.3	85	.30			
13	.89	26	.06	1.1	40	.12	.99	55	.15			
14	.89	25	.06	.80	40	.09	.99	35	.09			
15	.89	24	.06	.99	35	.09	.99	38	.10			
16	.89	23	.06	.99	35	.09	1.1	50	.15			
17	.99	25	.07	.89	35	.08	1.2	43	.14			
18	.80	21	.05	.89	35	.08	.99	46	.12			
19	.80	21	.05	.89	40	.10	.89	51	.12			
20	.89	25	.06	.89	45	.11	1.1	56	.17			
21	.99	30	.08	1.2	75	.24	1.1	61	.18			
22	1.1	35	.10	1.4	50	.19	.99	66	.18			
23	1.1	40	.12	1.3	37	.13	.80	61	.13			
24	1.2	35	.11	1.8	60	.29	.65	56	.10			
25	.99	35	.09	1.4	50	.19	.51	51	.07			
26	1.1	40	.12	1.4	80	.30	.35	50	.05			
27	1.4	50	.19	1.6	85	.37	.31	45	.04			
28	1.4	50	.19	1.7	88	.40	.20	40	.02			
29	1.2	50	.16	2.2	94	.56	.24	40	.03			
30	1.2	50	.16	2.2	94	.56	.35	40	.04			
31	---	---	---	2.0	96	.52	---	---	---			
TOTAL	30.39	---	2.79	50.70	---	37.73	31.95	---	6.79			
DAY	JULY				AUGUST				SEPTEMBER			
	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)			
1	.26	75	.05	.80	130	.28	.65	64	.11			
2	.32	80	.07	1.1	127	.38	.65	67	.12			
3	.45	70	.09	1.2	124	.40	.72	96	.19			
4	.73	70	.14	1.2	121	.39	.65	89	.16			
5	1.1	63	.19	1.1	117	.35	.58	82	.13			
6	.99	54	.14	1.2	114	.37	.65	75	.13			
7	.99	45	.12	1.1	108	.32	.65	68	.12			
8	1.1	36	.11	1.2	101	.33	.65	61	.11			
9	.89	28	.07	1.3	93	.33	.65	55	.10			
10	.80	43	.09	1.2	85	.28	.65	80	.14			
11	.80	59	.13	1.1	78	.23	.65	48	.08			
12	.89	74	.18	1.2	70	.23	.65	40	.07			
13	.89	74	.18	1.1	62	.18	.65	30	.05			
14	.99	74	.20	1.5	75	.30	.65	37	.06			
15	.89	74	.18	4.3	70	.81	.65	44	.08			
16	.86	90	.21	10	440	12	.58	51	.08			
17	.89	75	.18	30	1110	90	.65	58	.10			
18	.89	75	.18	5.0	245	3.3	.58	58	.09			
19	.99	77	.21	1.5	96	.39	.65	58	.10			
20	.89	77	.19	.99	70	.19	.72	59	.11			
21	.83	77	.17	.80	67	.14	.72	59	.11			
22	.67	77	.14	.89	64	.15	.65	60	.11			
23	.70	100	.19	.80	61	.13	.72	60	.12			
24	.72	80	.16	.72	59	.11	.72	61	.12			
25	.67	100	.18	.80	56	.12	.72	60	.12			
26	.59	175	.28	.89	54	.13	.58	60	.09			
27	.45	136	.17	.80	51	.11	.73	60	.12			
28	.51	136	.19	.89	53	.13	.72	60	.12			
29	.72	136	.26	.89	56	.13	.72	60	.12			
30	.65	150	.26	.80	58	.13	.72	60	.12			
31	.80	---	---	.80	61	.13	---	---	---			
TOTAL	23.92	---	4.91	77.17	---	112.47	19.93	---	3.28			
YEAR	510.42		237.78									

## SAN JUAN CREEK BASIN

11046550 SAN JUAN CREEK AT SAN JUAN CAPISTRANO, CA--Continued

## SUMMARY OF WATER AND SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

MONTH	WATER DISCHARGE CFS-DAYS	SUSPENDED SEDIMENT DISCHARGE TONS	BEDLOAD DISCHARGE TONS	TOTAL SEDIMENT DISCHARGE TONS
OCTOBER 1976	44.10	6.48	1	7
NOVEMBER ...	36.86	9.08	1	10
DECEMBER ...	41.58	3.37	1	4
JANUARY 1977	87.70	38.99	7	46
FEBRUARY ...	32.28	7.60	1	9
MARCH .....	33.84	4.29	1	5
APRIL .....	30.39	2.79	0	3
MAY .....	50.70	37.73	3	41
JUNE .....	31.95	6.79	1	8
JULY .....	23.92	4.91	0	5
AUGUST .....	77.17	112.47	9	121
SEPTEMBER ..	19.93	3.28	0	3
TOTAL .....	510.42	237.78	25	262

## PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	TEMPER- ATURE (DEG C)	INSTAN- TANEOUS DIS- CHARGE (CFS)	SUS- PEN- DED SEDIM- ENT (MG/L)	SUS- PEN- DED SEDIM- ENT DIS- CHARGE (T/DAY)	SUS. SED. FALL DIAM. % FINER THAN .002 MM	SUS. SED. FALL DIAM. % FINER THAN .004 MM	SUS. SED. FALL DIAM. % FINER THAN .008 MM	SUS. SED. FALL DIAM. % FINER THAN .016 MM	SUS. SED. FALL DIAM. % FINER THAN .031 MM	SUS. SED. FALL DIAM. % FINER THAN .062 MM	SUS. SED. FALL DIAM. % FINER THAN .125 MM
JAN												
03...	0645	12.0	5.9	179	2.9	--	--	--	--	--	100	--
03...	1130	16.0	2.6	174	1.2	--	--	--	--	--	100	--
06...	0745	11.0	2.8	72	.54	--	--	--	--	--	97	100
06...	1630	11.0	17	244	11	78	91	95	96	100	--	--
07...	0745	10.0	32	586	51	70	84	93	99	100	--	--
07...	1130	12.0	12	263	8.5	--	--	--	--	--	100	--
FEB												
24...	1330	12.0	13	149	5.2	--	--	--	--	--	99	100
MAR												
16...	1345	16.5	2.6	80	.56	--	--	--	--	--	100	--
MAY												
08...	1645	15.0	12	347	11	--	--	--	--	--	100	--
AUG												
17...	1020	22.5	12	149	4.8	--	--	--	--	--	99	100



11046550 SAN JUAN CREEK AT SAN JUAN CAPISTRANO, CA--Continued

## PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	TEMPER- ATURE (DEG C)	NUMBER OF SAM- PLING POINTS	INSTAN- TANEOUS DIS- CHARGE (CFS)	BED MAT. SIEVE DIAM. % FINER THAN .062 MM	BED MAT. SIEVE DIAM. % FINER THAN .125 MM	BED MAT. SIEVE DIAM. % FINER THAN .250 MM	BED MAT. SIEVE DIAM. % FINER THAN .500 MM
SEP 13...	0930	21.0	4	.72	3	5	10	24

DATE	BED MAT. SIEVE DIAM. % FINER THAN 1.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 2.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 4.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 8.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 16.0 MM	BED MAT. SIEVE DIAM. % FINER THAN 32.0 MM	BED MAT. SIEVE DIAM. % FINER THAN 64.0 MM
SEP 13...	47	62	72	80	88	97	100

11047200 OSO CREEK AT CROWN VALLEY PARKWAY, NEAR MISSION VIEJO, CA

LOCATION.--Lat 33°33'29", long 117°40'33", in SE¼ sec.14, T.7 S., R.8 W., Orange County, on right upstream side of Crown Valley Parkway bridge, 2.7 mi (4.3 km) south of Mission Viejo, and 4.0 mi (6.4 km) north of San Juan Capistrano.

DRAINAGE AREA.--14.0 mi<sup>2</sup> (36.3 km<sup>2</sup>).

PERIOD OF RECORD.--December 1969 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 250 ft (76 m), from topographic map.

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

COOPERATION.--Records were furnished by Orange County Environmental Management Agency.

AVERAGE DISCHARGE.--7 years (water years 1971-77), 2.49 ft<sup>3</sup>/s (0.071 m<sup>3</sup>/s), 1,800 acre-ft/yr (2.22 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,630 ft<sup>3</sup>/s (46.2 m<sup>3</sup>/s) Feb. 11, 1973, gage height, 7.67 ft (2.338 m); no flow at times in most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 425 ft<sup>3</sup>/s (12.0 m<sup>3</sup>/s) Aug. 17, gage height, 3.75 ft (1.143 m); minimum daily, 1.1 ft<sup>3</sup>/s (0.031 m<sup>3</sup>/s) Mar. 26-31, Apr. 1-5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.4	1.4	1.2	1.5	1.4	1.3	1.1	2.8	1.5	1.3	1.3	1.6
2	30	1.4	1.2	5.0	1.4	1.3	1.1	4.4	1.4	1.3	1.3	1.6
3	3.0	1.4	1.2	124	1.4	1.3	1.1	2.8	1.3	1.3	1.4	1.7
4	1.2	1.4	1.2	10	1.4	1.3	1.1	2.7	1.3	4.8	1.4	1.7
5	1.2	1.4	1.3	1.5	1.4	1.3	1.1	2.7	1.4	1.4	1.2	1.6
6	1.2	1.4	1.3	131	1.4	1.3	1.2	2.7	1.4	1.4	1.2	1.6
7	1.2	1.4	1.3	67	1.4	1.3	1.2	2.7	1.4	1.3	1.2	1.5
8	1.2	1.4	1.3	1.5	1.4	1.3	1.2	68	1.4	1.4	1.2	1.5
9	1.2	1.4	1.3	1.5	1.4	1.3	1.2	27	1.5	1.4	1.2	1.5
10	1.2	1.4	1.3	1.5	1.4	1.3	1.3	4.1	1.3	1.3	1.3	1.6
11	1.2	2.6	1.3	1.5	1.4	1.3	1.3	2.2	1.3	1.3	1.3	1.6
12	1.2	117	1.3	1.5	1.4	1.3	1.3	1.8	1.3	1.3	1.3	1.6
13	1.3	5.0	1.3	1.5	1.4	1.3	1.4	1.5	1.3	1.3	1.3	1.6
14	1.3	1.7	1.3	1.5	1.4	1.3	1.4	1.5	1.4	1.3	1.3	1.6
15	1.3	1.7	1.3	1.5	1.4	1.3	1.4	1.4	1.4	1.3	1.3	1.6
16	1.3	1.7	1.2	1.5	1.5	23	1.5	1.4	1.4	1.3	1.8	1.6
17	1.3	1.6	1.2	1.4	1.6	1.9	1.5	1.5	1.4	1.3	113	1.6
18	1.3	1.6	1.2	1.4	1.5	1.4	1.6	1.5	1.3	1.3	8.1	1.6
19	1.3	1.6	1.2	1.4	1.4	1.4	1.7	1.5	1.2	1.4	2.2	1.5
20	1.3	1.5	1.2	1.4	1.4	1.4	1.9	1.6	1.2	1.4	2.0	1.6
21	1.3	1.5	1.2	1.4	1.4	1.4	2.1	1.4	1.4	1.3	1.8	1.6
22	1.3	1.5	1.2	1.4	1.4	1.4	2.2	1.4	1.4	1.4	1.6	1.8
23	1.3	1.5	1.2	1.4	1.4	1.4	2.2	1.4	1.4	1.4	1.5	1.7
24	1.3	1.5	1.2	1.4	31	1.4	2.3	6.6	1.4	1.4	1.6	1.7
25	1.3	1.4	1.2	1.4	2.5	15	2.3	1.4	1.3	1.4	1.5	1.5
26	1.3	1.4	1.2	1.4	1.4	1.1	2.4	1.4	1.3	1.4	1.5	1.5
27	1.4	1.4	1.2	1.4	1.4	1.1	2.4	1.4	1.3	1.4	1.6	1.7
28	1.4	1.4	1.2	1.4	1.4	1.1	2.5	1.5	1.3	1.3	1.7	1.7
29	1.4	1.3	1.2	1.4	---	1.1	2.5	1.4	1.3	1.3	1.8	1.7
30	1.4	1.3	22	1.4	---	1.1	2.7	1.4	1.3	1.3	2.0	1.6
31	1.4	---	5.0	1.4	---	1.1	---	1.5	---	1.3	1.7	---
TOTAL	71.4	164.2	62.9	374.5	70.3	75.8	50.2	156.6	40.5	45.0	164.6	48.3
MEAN	2.30	5.47	2.03	12.1	2.51	2.45	1.67	5.05	1.35	1.45	5.31	1.61
MAX	30	117	22	131	31	23	2.7	68	1.5	4.8	113	1.8
MIN	1.2	1.3	1.2	1.4	1.4	1.1	1.1	1.4	1.2	1.3	1.2	1.5
AC-FT	142	326	125	743	139	150	100	311	80	89	326	96

CAL YR 1976 TOTAL 1127.50 MEAN 3.08 MAX 117 MIN .70 AC-FT 2240  
WTR YR 1977 TOTAL 1324.30 MEAN 3.63 MAX 131 MIN 1.1 AC-FT 2630

11047300 ARROYO TRABUCO AT SAN JUAN CAPISTRANO, CA

LOCATION.--Lat 33°29'54", long 117°39'54", on line between secs.1 and 12, T.8 S., R.8 W., Orange County, on downstream side of bridge on Del Obispo Street in San Juan Capistrano.

DRAINAGE AREA.--54.1 mi<sup>2</sup> (140 km<sup>2</sup>).

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1972 to current year.

GAGE.--Water-stage recorder. Datum of gage is 80 ft (24.4 m), from topographic map.

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

COOPERATION.--Records were furnished by Orange County Environmental Management Agency and reviewed by the Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,380 ft<sup>3</sup>/s (39.1 m<sup>3</sup>/s) Feb. 11, 1973, gage height, 2.50 ft (0.762 m); maximum gage height, 3.09 ft (0.942 m) Jan. 3, 1977, (channel fill condition); no flow many days during most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 740 ft<sup>3</sup>/s (21.0 m<sup>3</sup>/s) Jan. 3, gage height, 3.09 ft (0.942 m); minimum daily, 0.10 ft<sup>3</sup>/s (0.003 m<sup>3</sup>/s) Oct. 19 and Dec. 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.4	.60	.30	16	1.0	.50	1.5	2.7	1.2	.50	.50	.50
2	5.0	.60	.80	12	1.4	.50	1.4	3.1	1.4	.50	.50	.50
3	3.4	.60	.50	157	1.2	.50	1.4	2.7	1.4	.50	.50	.50
4	3.4	.60	.50	16	1.0	.50	1.2	1.4	1.0	7.6	.50	.50
5	3.1	.60	.80	6.4	1.0	.60	1.0	1.2	1.0	.50	.50	.50
6	3.1	.60	1.0	149	1.2	.80	1.2	1.2	1.2	.50	.50	.50
7	1.9	.60	.80	94	.80	1.4	.80	1.2	1.0	.50	.50	.50
8	1.5	.60	.60	4.6	1.0	1.2	.60	65	1.5	.50	.50	.50
9	1.0	.60	.80	1.4	1.0	1.2	.80	41	1.9	.50	.50	.50
10	.80	.60	.30	1.4	1.0	.50	.60	14	2.3	.50	.50	.50
11	1.2	1.8	.30	1.9	1.0	.50	.60	3.8	1.5	.50	.50	.50
12	1.2	11	.80	1.9	.80	.50	.50	3.8	1.4	.50	.50	.50
13	1.2	3.4	1.0	2.7	.80	1.0	.60	2.3	1.4	.50	.50	.50
14	1.5	5.4	.10	1.9	.60	1.4	.60	1.2	1.5	.50	.50	.50
15	1.2	1.4	.60	1.9	.60	.80	.80	.80	1.5	.50	.50	.50
16	1.4	1.4	.50	1.9	.60	30	.80	1.0	.30	.50	22	.50
17	1.2	1.2	.30	1.4	.60	7.7	.80	1.0	.80	.50	147	.50
18	.80	.80	.30	1.5	1.2	1.0	.60	1.0	.60	.50	33	.50
19	.10	.60	.30	1.4	.60	.60	.50	1.5	.60	.50	17	.50
20	.50	1.0	.30	1.5	.60	.60	.60	2.3	.60	.50	12	.50
21	.80	1.2	.30	3.8	.60	.60	.50	1.5	.80	.50	9.4	.50
22	1.0	1.4	.30	2.0	.60	1.0	.80	1.9	.80	.50	7.7	.50
23	.60	1.2	.30	1.5	.60	1.4	.60	1.5	.50	.50	5.9	.50
24	1.0	1.2	.50	1.0	53	2.4	.60	15	.50	.50	5.4	.50
25	.60	1.5	.80	1.0	4.2	51	1.2	1.5	.50	.50	3.8	.50
26	.60	1.4	1.0	2.3	1.0	10	1.2	1.0	.50	.50	1.5	.50
27	.60	1.4	1.2	1.4	1.0	2.7	1.5	1.2	.50	.50	.80	.50
28	.60	.80	1.2	1.4	.50	2.3	1.4	1.2	.50	.50	.80	.50
29	.60	.80	1.2	1.5	---	1.9	1.5	1.4	.50	.50	.80	.50
30	.60	.80	38	1.0	---	1.9	1.5	1.2	.50	.50	.80	.50
31	.60	---	44	1.0	---	1.5	---	1.2	---	.50	.50	---
TOTAL	42.50	45.70	99.70	493.7	79.50	128.50	27.70	180.80	29.70	22.60	275.90	15.00
MEAN	1.37	1.52	3.22	15.9	2.84	4.15	.92	5.83	.99	.73	8.90	.50
MAX	5.0	11	44	157	53	51	1.5	65	2.3	7.6	147	.50
MIN	.10	.60	.10	1.0	.50	.50	.50	.80	.30	.50	.50	.50
AC-FT	84	91	198	979	158	255	55	359	59	45	547	30
CAL YR 1976	TOTAL	1188.00	MEAN 3.25	MAX 101	MIN 0	AC-FT 2360						
WTR YR 1977	TOTAL	1441.30	MEAN 3.95	MAX 157	MIN .10	AC-FT 2860						

## SAN JUAN CREEK BASIN

11047300 ARROYO TRABUCO AT SAN JUAN CAPISTRANO, CA--Continued

## WATER-QUALITY RECORDS

## PERIOD OF DAILY RECORD, --

WATER TEMPERATURES: October 1970 to current year.

SEDIMENT RECORDS: October 1970 to current year.

## EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 8,900 mg/l Feb. 11, 1973; minimum daily mean, no flow for many days most years.

SEDIMENT DISCHARGE: Maximum daily, 7,820 tons (7,090 tonnes) Feb. 11, 1973; minimum daily, 0 tons on many days each year.

## EXTREMES FOR CURRENT YEAR.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 8,510 mg/l Jan. 3; minimum daily mean, 1 mg/l Dec. 29.

SEDIMENT DISCHARGE: Maximum daily, 6640 tons (6020 tonnes) Jan. 3; minimum daily, 0 tons several days in December.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
ONCE-DAILY

[illegible]

11047300 ARROYO TRABUCO AT SAN JUAN CAPISTRANO, CA--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	OCTOBER			NOVEMBER			DECEMBER		
	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	1.4	18	.07	.60	17	.03	.30	30	.02
2	5.0	30	.41	.60	13	.02	.80	35	.08
3	3.4	22	.20	.60	10	.02	.50	40	.05
4	3.4	20	.18	.60	8	.01	.50	47	.06
5	3.1	20	.17	.60	5	.01	.80	40	.09
6	3.1	20	.17	.60	11	.02	1.0	30	.08
7	1.9	19	.10	.60	10	.02	.80	20	.04
8	1.5	19	.08	.60	10	.02	.60	10	.02
9	1.0	19	.05	.60	10	.02	.80	7	.02
10	.80	20	.04	.60	10	.02	.30	15	.01
11	1.2	20	.06	1.8	14	.32	.30	20	.02
12	1.2	25	.08	11	52	1.7	.80	25	.05
13	1.2	25	.08	3.4	15	.14	1.0	35	.09
14	1.5	30	.12	5.4	13	.19	.10	20	.01
15	1.2	35	.11	1.4	11	.04	.60	3	0
16	1.4	39	.15	1.4	9	.03	.50	15	.02
17	1.2	40	.13	1.2	7	.02	.30	25	.02
18	.80	45	.10	.80	5	.01	.30	34	.03
19	.10	50	.01	.60	5	.01	.30	25	.02
20	.50	55	.07	1.0	5	.01	.30	20	.02
21	.80	60	.13	1.2	5	.02	.30	10	.01
22	1.0	65	.18	1.4	4	.02	.30	6	0
23	.60	67	.11	1.2	4	.01	.30	10	.01
24	1.0	65	.18	1.2	4	.01	.50	20	.03
25	.60	55	.09	1.5	20	.08	.80	27	.06
26	.60	45	.07	1.4	18	.07	1.0	20	.05
27	.60	40	.06	1.4	15	.06	1.2	15	.05
28	.60	35	.06	.80	15	.03	1.2	5	.02
29	.60	30	.05	.80	20	.04	1.2	1	0
30	.60	27	.04	.80	25	.05	38	220	58
31	.60	25	.04	---	---	---	44	313	41
TOTAL	42.50	---	3.39	45.70	---	3.05	99.70	---	99.98
DAY	JANUARY			FEBRUARY			MARCH		
	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	16	45	1.9	1.0	35	.09	.50	30	.04
2	12	385	42	1.4	40	.15	.50	35	.05
3	157	8510	6640	1.2	40	.13	.50	40	.05
4	16	1250	54	1.0	45	.12	.50	48	.06
5	6.4	150	2.6	1.0	48	.13	.60	24	.04
6	149	3300	1680	1.2	45	.15	.80	20	.04
7	94	2700	1030	.80	40	.09	1.4	15	.06
8	4.6	1750	22	1.0	40	.11	1.2	10	.03
9	1.4	400	1.5	1.0	37	.10	1.2	10	.03
10	1.4	20	.08	1.0	37	.10	.50	10	.01
11	1.9	20	.10	1.0	38	.10	.50	9	.01
12	1.9	20	.10	.80	38	.08	.50	10	.01
13	2.7	20	.15	.80	40	.09	1.0	10	.03
14	1.9	20	.10	.60	45	.07	1.4	10	.04
15	1.9	20	.10	.60	50	.08	.80	10	.02
16	1.9	19	.10	.60	55	.09	30	1220	201
17	1.4	19	.07	.60	60	.10	7.7	450	9.4
18	1.5	19	.08	1.2	65	.21	1.0	100	.27
19	1.4	19	.07	.60	71	.12	.60	95	.15
20	1.5	19	.08	.60	65	.11	.60	75	.12
21	3.8	20	.21	.60	60	.10	.60	55	.09
22	2.0	21	.11	.60	50	.08	1.0	35	.09
23	1.5	22	.09	.60	330	.53	1.4	23	.09
24	1.0	22	.06	53	1870	507	2.4	35	.23
25	1.0	23	.06	4.2	520	5.9	51	960	188
26	2.3	24	.15	1.0	15	.04	10	55	1.5
27	1.4	25	.09	1.0	20	.05	2.7	55	.40
28	1.4	25	.09	.50	25	.03	2.3	50	.31
29	1.5	28	.11	---	---	---	1.9	50	.26
30	1.0	30	.08	---	---	---	1.9	50	.26
31	1.0	35	.09	---	---	---	1.5	45	.18
TOTAL	443.7	---	9476.17	79.50	---	515.95	128.50	---	402.87

## SAN JUAN CREEK BASIN

11047300 ARROYO TRABUCO AT SAN JUAN CAPISTRANO, CA--Continued

## SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	APRIL			MAY			JUNE		
	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	1.5	45	.18	2.7	6	.04	1.2	60	.19
2	1.4	58	.22	3.1	6	.05	1.4	65	.25
3	1.4	57	.22	2.7	6	.04	1.4	70	.26
4	1.2	56	.18	1.4	6	.02	1.0	76	.21
5	1.0	55	.15	1.2	7	.02	1.0	65	.18
6	1.2	53	.17	1.2	7	.02	1.2	55	.18
7	.80	52	.11	1.2	7	.02	1.0	45	.12
8	.60	51	.08	65	2360	960	1.5	35	.14
9	.80	50	.11	41	2180	346	1.9	25	.13
10	.60	48	.08	14	550	21	2.3	14	.09
11	.60	46	.07	3.8	110	1.1	1.5	15	.06
12	.50	44	.06	3.8	60	.62	1.4	15	.06
13	.60	42	.07	2.3	50	.31	1.4	16	.06
14	.60	40	.06	1.2	45	.15	1.5	16	.06
15	.80	37	.08	.80	40	.09	1.5	20	.08
16	.80	34	.07	1.0	35	.09	.30	30	.02
17	.80	31	.07	1.0	30	.08	.80	40	.09
18	.60	18	.03	1.0	25	.07	.60	50	.08
19	.50	18	.02	1.5	20	.08	.60	40	.06
20	.60	18	.03	2.3	15	.09	.60	30	.05
21	.50	18	.02	1.5	10	.04	.80	20	.04
22	.80	18	.04	1.9	10	.05	.80	14	.03
23	.60	18	.03	1.5	10	.04	.50	15	.02
24	.60	16	.03	15	139	10	.50	17	.02
25	1.2	14	.05	1.5	20	.08	.50	18	.02
26	1.2	12	.04	1.0	30	.08	.50	19	.03
27	1.5	10	.04	1.2	36	.12	.50	20	.03
28	1.4	8	.03	1.2	40	.13	.50	22	.03
29	1.5	8	.03	1.4	45	.17	.50	24	.03
30	1.5	6	.02	1.2	50	.16	.50	26	.04
31	---	---	---	1.2	55	.18	---	---	---
TOTAL	27.70	---	2.39	180.80	---	1340.94	29.70	---	2.66
DAY	JULY			AUGUST			SEPTEMBER		
	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	.50	30	.04	.50	20	.03	.50	3	0
2	.50	33	.04	.50	25	.03	.50	2	0
3	.50	30	.04	.50	30	.04	.50	8	.01
4	7.6	96	6.7	.50	40	.05	.50	7	.01
5	.50	44	.06	.50	50	.07	.50	6	.01
6	.50	40	.05	.50	57	.08	.50	5	.01
7	.50	35	.05	.50	50	.07	.50	4	.01
8	.50	30	.04	.50	45	.06	.50	4	.01
9	.50	23	.03	.50	40	.05	.50	4	.01
10	.50	35	.05	.50	35	.05	.50	4	.01
11	.50	45	.06	.50	30	.04	.50	5	.01
12	.50	58	.08	.50	25	.03	.50	6	.01
13	.50	40	.05	.50	20	.03	.50	7	.01
14	.50	25	.03	.50	15	.02	.50	8	.01
15	.50	9	.01	.50	10	.01	.50	9	.01
16	.50	10	.01	22	687	136	.50	9	.01
17	.50	11	.01	147	3220	1810	.50	9	.01
18	.50	12	.02	33	220	20	.50	10	.01
19	.50	13	.02	17	30	1.4	.50	12	.02
20	.50	14	.02	12	27	.87	.50	14	.02
21	.50	15	.02	9.4	25	.63	.50	16	.02
22	.50	16	.02	7.7	25	.52	.50	18	.02
23	.50	16	.02	5.9	25	.40	.50	18	.02
24	.50	16	.02	5.4	23	.34	.50	18	.02
25	.50	16	.02	3.8	23	.24	.50	15	.02
26	.50	16	.02	1.5	23	.09	.50	15	.02
27	.50	17	.02	.80	21	.05	.50	15	.02
28	.50	17	.02	.80	18	.04	.50	15	.02
29	.50	17	.02	.80	15	.03	.50	15	.02
30	.50	17	.02	.80	10	.02	.50	15	.02
31	.50	17	.02	.50	5	.01	---	---	---
TOTAL	22.60	---	7.63	275.90	---	1971.30	15.00	---	.40
YFAR	1441.30		13826.73						

## 11047300 ARROYO TRABUCO AT SAN JUAN CAPISTRANO, CA--Continued

## SUMMARY OF WATER AND SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

MONTH	WATER DISCHARGE CFS-DAYS	SUSPENDED SEDIMENT DISCHARGE TONS	BEDLOAD DISCHARGE TONS	TOTAL SEDIMENT DISCHARGE TONS
OCTOBER 1976	42.50	3.39	11	14
NOVEMBER ...	45.70	3.05	23	26
DECEMBER ...	99.70	99.98	345	445
JANUARY 1977	493.70	9476.17	3630	13100
FEBRUARY ...	79.50	515.95	267	783
MARCH .....	128.50	402.87	368	771
APRIL .....	27.70	2.39	3	5
MAY .....	180.80	1340.94	600	1940
JUNE .....	29.70	2.66	4	7
JULY .....	22.60	7.63	9	17
AUGUST .....	275.90	1971.30	1600	3570
SEPTEMBER ..	15.00	0.40	2	2
TOTAL .....	1441.30	13826.73	6862	20680

## PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	TEMPER- ATURE (DEG C)	INSTAN- TANEOUS DIS- CHARGE (CFS)	SUS- PEN- DED SEDIM- ENT (MG/L)	SUS- PEN- DED SEDIM- ENT DIS- CHARGE (T/DAY)	SUS. SED. FALL DIAM. % FINER THAN .002 MM	SUS. SED. FALL DIAM. % FINER THAN .004 MM	SUS. SED. FALL DIAM. % FINER THAN .008 MM	SUS. SED. FALL DIAM. % FINER THAN .016 MM	SUS. SED. FALL DIAM. % FINER THAN .031 MM	SUS. SED. FALL DIAM. % FINER THAN .062 MM
NOV											
12...	1140	18.5	33	90	8.0	--	--	--	--	--	--
DEC											
31...	0745	11.0	37	369	37	86	96	99	100	--	--
JAN											
03...	0700	12.0	393	17600	18700	42	50	53	65	71	--
03...	1645	13.0	5.9	3450	55	64	76	93	98	100	--
04...	0745	10.0	1.9	149	.76	--	--	--	--	--	--
06...	1210	12.5	144	5790	2250	38	39	48	57	69	--
06...	1300	11.0	370	5150	5150	43	46	55	66	78	89
06...	1615	11.0	289	4600	3590	48	54	66	76	86	--
07...	0730	11.0	181	5820	2840	32	37	39	50	61	--
07...	1615	12.0	38	1530	157	59	72	84	91	96	--
08...	0730	10.0	5.4	198	2.9	--	--	--	--	--	--
08...	1700	13.0	1.9	149	.76	--	--	--	--	--	--
FEB											
24...	1645	12.0	142	4280	1640	60	62	69	84	93	97
MAR											
25...	1020	12.0	63	582	99	56	67	74	80	86	--
MAY											
08...	1600	16.0	156	6480	2730	49	55	59	71	88	97
10...	0700	15.0	7.1	828	16	76	91	95	98	99	--
10...	1420	22.0	14	401	15	84	97	99	99	99	--
AUG											
17...	1110	23.5	142	4870	1870	45	49	51	60	75	86
17...	1230	20.0	135	3200	1170	54	58	65	76	85	--

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

	SUS. SED. SIEVE DIAM. % FINER THAN .062 MM	SUS. SED. FALL DIAM. % FINER THAN .125 MM	SUS. SED. SIEVE DIAM. % FINER THAN .125 MM	SUS. SED. FALL DIAM. % FINER THAN .250 MM	SUS. SED. SIEVE DIAM. % FINER THAN .250 MM	SUS. SED. FALL DIAM. % FINER THAN .500 MM	SUS. SED. SIEVE DIAM. % FINER THAN .500 MM	SUS. SED. FALL DIAM. % FINER THAN 1.00 MM	SUS. SED. SIEVE DIAM. % FINER THAN 1.00 MM	SUS. SED. FALL DIAM. % FINER THAN 2.00 MM	SUS. SED. SIEVE DIAM. % FINER THAN 2.00 MM
NOV 12...	99	--	100	--	--	--	--	--	--	--	--
DEC 31...	--	--	--	--	--	--	--	--	--	--	--
JAN 03...	75	--	75	--	77	--	79	--	86	--	95
03...	--	--	--	--	--	--	--	--	--	--	--
04...	100	--	--	--	--	--	--	--	--	--	--
06...	82	--	88	--	93	--	97	--	99	--	99
06...	--	91	--	93	--	95	--	99	--	100	--
06...	92	--	94	--	96	--	98	--	100	--	--
07...	73	--	80	--	84	--	87	--	92	--	97
07...	99	--	100	--	--	--	--	--	--	--	--
08...	100	--	--	--	--	--	--	--	--	--	--
08...	100	--	--	--	--	--	--	--	--	--	--
FEB 24...	--	99	--	100	--	--	--	--	--	--	--
MAR 25...	93	--	91	--	93	--	97	--	100	--	--
MAY 08...	--	99	--	100	--	--	--	--	--	--	--
10...	99	--	100	--	--	--	--	--	--	--	--
10...	100	--	--	--	--	--	--	--	--	--	--
AUG 17...	--	91	--	95	--	98	--	100	--	--	--
17...	91	--	94	--	97	--	99	--	100	--	--

DATE	TIME	TEMPER- ATURE (DEG C)	NUMBER OF SAM- PLING POINTS	INSTAN- TANEOUS DIS- CHARGE (CFS)	BED MAT.	BED MAT.	BED MAT.	BED MAT.
					SIEVE DIAM.	SIEVE DIAM.	SIEVE DIAM.	SIEVE DIAM.
					% FINER THAN .062 MM	% FINER THAN .125 MM	% FINER THAN .250 MM	% FINER THAN .500 MM
AUG 18...	1130	22.5	3	16	1	2	4	17
					BED MAT. SIEVE DIAM.	BED MAT. SIEVE DIAM.	BED MAT. SIEVE DIAM.	BED MAT. SIEVE DIAM.
					% FINER THAN 1.00 MM	% FINER THAN 2.00 MM	% FINER THAN 4.00 MM	% FINER THAN 8.00 MM
					% FINER THAN 16.0 MM	% FINER THAN 32.0 MM	% FINER THAN 64.0 MM	
AUG 18...		32	42	53	67	79	99	100

DATE	TIME	TEMPERATURE (DEG C)	NUMBER OF SAMPLING POINTS	INSTANTANEOUS DISCHARGE (CFS)	STREAM WIDTH (FT)	SEDIMENT BEDLOAD DISCHARGE (T/DAY)	SED. BEDLOAD SIEVE DIAM. % FINER THAN .062 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN .125 MM
AUG 18...	1115	22.5	8	16	16	7.5	0	1
		SED. BEDLOAD SIEVE DIAM. % FINER THAN .250 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN .500 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 1.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 2.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 4.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 8.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 16.0 MM
AUG 18...		1	22	65	85	94	99	100



LOCATION.--Lat 33°37'33", long 117°41'08", in Canada de los Alisos Grant, Orange County, on right bank 500 ft (150 m) downstream from Second Street Bridge at El Toro. Prior to Nov. 18, 1975 at site 500 ft (150 m) upstream.

GAGE.--Water-stage recorder. Altitude of gage is 425 ft (130 m), from topographic map. Prior to July 1962, at different datum. July 1962 to Nov. 18, 1975, water-stage recorder at site 500 ft (150 m) upstream at different datum.

AVERAGE DISCHARGE.--47 years, 0.70 ft<sup>3</sup>/s (0.020 m<sup>3</sup>/s), 507 acre-ft/yr (625,000 m<sup>3</sup>/yr).

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 13 ft<sup>3</sup>/s (0.37 m<sup>3</sup>/s) May 8; no flow many days.

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.50	0	0	0	0	0		0			0	.10
2	0	0	0	2.6	0	0		0			0	.10
3	0	0	0	1.1	.50	0		0			0	.10
4	0	0	0	0	.40	0		0			0	0
5	0	0	0	2.0	.20	0		0			0	.10
6	0	0	0	7.0	.20	0		0			0	.10
7	0	0	0	3.0	.40	0		0			0	0
8	0	0	0	.10	.40	0		13			0	.10
9	0	0	0	.10	.40	0		1.9			0	.10
10	0	0	0	.10	.60	0		.20			0	.20
11	0	0	0	.10	2.7	0		.10			0	.10
12	0	8.0	0	.10	5.8	0		0			0	.10
13	0	0	0	.10	.40	0		0			0	0
14	0	0	0	.10	.20	0		0			0	0
15	0	0	0	.10	.10	0		0			0	0
16	0	0	0	0	.10	3.4		0			7.0	0
17	0	0	0	0	.10	0		0			6.0	.10
18	0	0	0	0	.10	0		0			.20	0
19	0	0	0	.10	.20	0		0			0	0
20	0	0	0	.10	.20	0		0			0	.10
21	0	0	0	0	.40	0		0			0	0
22	0	0	.10	0	.20	0		0			0	.10
23	0	0	.20	0	2.6	0		0			0	.10
24	0	0	0	0	7.1	.10		0			0	0
25	0	0	0	0	.10	5.0		0			0	0
26	0	0	0	0	0	0		0			.10	0
27	0	0	0	0	0	0		0			.10	0
28	0	0	0	.10	0	0		0			0	0
29	0	0	0	.10	---	0		0			0	0
30	0	0	5.3	0	---	0		0			.10	0
31	0	---	.80	0	---	0	---	0	---		0	---
TOTAL	.50	8.0	6.40	16.90	23.40	8.50	0	15.20	0	0	13.50	1.50
MEAN	.016	.27	.21	.55	.84	.27	0	.49	0	0	.44	.050
MAX	.50	8.0	5.3	7.0	7.1	5.0	0	13	0	0	7.0	.20
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	1.0	16	13	34	46	17	0	30	0	0	27	3.0
CAL YR 1976	TOTAL 61.80	MEAN .17	MAX 12	MIN 0	AC-FT 123							
WTR YR 1977	TOTAL 93.90	MEAN .26	MAX 13	MIN 0	AC-FT 186							

## SAN DIEGO CREEK BASIN

11048500 SAN DIEGO CREEK AT SAND CANYON AVENUE, NEAR IRVINE, CA

LOCATION.--Lat 33°39'50", long 117°46'16", in San Joaquin Grant, Orange County, on downstream side of Sand Canyon Road bridge, and 1.5 mi (2.4 km) west of Irvine.

DRAINAGE AREA.--39.2 mi<sup>2</sup> (101.5 km<sup>2</sup>).

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1976 to September 1977.

GAGE.--Water-stage recorder. Altitude of gage is 140 ft (42.7 m) above mean sea level, from topographic map.

REMARKS.--Records poor. Sewage inflow and irrigation runoff cause low-flow fluctuations in discharge.

COOPERATION.--Nine discharge measurements were furnished by Orange County Environmental Management Agency.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 840 ft<sup>3</sup>/s (23.8 m<sup>3</sup>/s) Jan. 6, 1977, gage height, 14.87 ft (4.532 m).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 300 ft<sup>3</sup>/s (8.50 m<sup>3</sup>/s) and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)		Gage height (ft) (m)		Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)		Gage height (ft) (m)	
Jan. 3	Unknown	783	22.2	14.72	4.487	Aug. 17	1030	409	11.6	13.85	4.221
Jan. 6	Unknown	*840	23.8	14.87	4.532						

Minimum daily discharge, 0.17 ft<sup>3</sup>/s (0.005 m<sup>3</sup>/s) Apr. 17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.5	5.0	4.0	2.4	2.8	4.9	2.8	.50	1.1	2.5	2.0	7.4
2	3.5	5.0	4.0	2.5	2.2	5.1	3.0	.97	1.2	2.8	1.0	5.9
3	3.5	5.0	4.0	7.0	1.5	3.8	2.8	.67	1.9	2.4	1.1	7.9
4	3.5	5.0	4.0	5.0	2.4	6.0	2.5	.39	1.2	2.2	1.5	6.1
5	3.5	5.0	4.0	15	1.7	5.1	2.2	.81	1.8	2.1	2.2	4.4
6	3.5	5.0	3.5	115	1.7	4.0	1.8	.89	1.6	1.9	2.8	4.1
7	3.5	5.0	3.0	10	1.5	3.0	1.9	.97	2.1	1.7	2.8	4.8
8	3.5	5.0	3.0	7.0	1.9	4.2	1.6	76	2.1	1.7	3.2	4.6
9	3.5	5.0	3.0	5.0	2.0	4.2	1.1	65	2.2	1.6	3.8	5.8
10	3.0	5.0	3.0	4.0	2.2	3.6	.85	2.8	2.2	1.2	5.6	4.6
11	2.5	5.0	3.0	3.0	2.7	3.0	.70	2.2	2.1	1.0	4.6	6.1
12	2.5	7.0	2.5	2.5	3.0	3.2	.67	2.0	1.1	.97	3.2	4.5
13	2.5	7.5	2.0	2.0	2.4	2.5	.34	1.9	.67	1.3	5.9	3.8
14	2.5	6.0	1.5	1.8	1.9	1.9	.44	1.8	.50	1.4	3.0	2.0
15	2.5	4.5	1.2	1.5	1.7	1.2	.55	1.7	.61	1.6	2.7	2.5
16	2.5	4.5	1.0	1.5	2.5	17	.49	1.7	.49	2.3	6.9	3.0
17	2.5	4.5	1.0	1.5	1.7	10	.17	1.1	.49	2.2	151	4.4
18	2.5	4.5	1.0	1.5	1.6	9.5	.27	1.3	.27	2.1	13	2.8
19	2.5	4.5	1.0	1.5	2.8	9.3	.35	1.3	.30	2.2	7.3	2.1
20	2.5	4.5	1.2	1.5	1.9	15	.55	1.3	.55	2.2	7.0	1.7
21	2.5	4.5	1.7	3.8	1.8	15	.44	1.9	.67	1.9	5.6	2.9
22	2.5	5.0	1.7	3.2	1.8	15	1.6	1.3	.67	2.7	7.9	3.0
23	2.5	6.5	1.7	3.2	4.4	15	.61	1.7	.89	1.9	7.6	2.9
24	2.5	6.5	1.7	2.1	48	13	1.4	2.2	.81	2.1	8.6	5.9
25	2.5	6.5	1.7	2.1	6.4	44	.81	1.1	1.2	1.6	8.6	4.6
26	2.5	6.0	1.7	1.9	3.0	14	.67	.89	1.3	1.6	7.3	3.8
27	6.0	5.0	2.0	1.6	5.6	3.0	1.3	1.1	1.8	1.6	9.3	2.8
28	6.0	4.5	2.2	1.9	3.6	1.5	.61	.67	1.8	1.8	8.6	2.2
29	6.0	4.0	2.3	2.2	---	1.5	.23	1.3	2.2	1.1	8.2	2.1
30	6.0	4.0	25	2.4	---	2.1	.27	1.6	2.1	2.8	7.4	1.8
31	5.0	---	9.0	2.2	---	2.4	---	1.3	---	3.0	7.4	---
TOTAL	103.5	218.0	101.6	280.8	116.7	243.0	33.02	180.36	37.92	59.47	317.1	120.5
MEAN	3.34	7.27	3.28	9.06	4.17	7.84	1.10	5.82	1.26	1.92	10.2	4.02
MAX	6.0	7.0	25	115	48	44	3.0	76	2.2	3.0	151	7.9
MIN	2.5	4.0	1.0	1.5	1.5	1.2	.17	.39	.27	.97	1.0	1.7
AC-FT	205	432	202	557	231	482	65	358	75	118	629	239

WTR YR 1977 TOTAL 1811.97 MEAN 4.96 MAX 151 MIN .17 AC-FT 3590

WATER-QUALITY RECORDS

SEDIMENT DISCHARGE: Maximum daily, 1,380 tons (1,250 tonnes) Aug.17; minimum daily, 0.02 tons (0.02 tonnes) Apr. 29.

[illegible]

## SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	OCTOBER			NOVEMBER			DECEMBER		
	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	3.5	200	1.9	5.0	230	3.1	4.0	915	9.9
2	3.5	200	1.9	5.0	215	2.9	4.0	1000	11
3	3.5	200	1.9	5.0	203	2.7	4.0	900	9.7
4	3.5	200	1.9	5.0	188	2.5	4.0	800	8.6
5	3.5	201	1.9	5.0	146	2.0	4.0	690	7.5
6	3.5	360	3.4	5.0	150	2.0	3.5	570	5.4
7	3.5	312	2.9	5.0	154	2.1	3.0	445	3.6
8	3.5	300	2.8	5.0	170	2.3	3.0	320	2.6
9	3.5	285	2.7	5.0	185	2.5	3.0	318	2.6
10	3.0	270	2.2	5.0	202	2.7	3.0	290	2.3
11	2.5	235	1.6	5.0	200	2.7	3.0	275	2.2
12	2.5	195	1.3	70	5000	1000	2.5	280	1.9
13	2.5	160	1.1	7.5	700	14	2.0	285	1.5
14	2.5	116	1.78	6.0	520	8.4	1.5	290	1.2
15	2.5	185	1.2	4.5	370	4.5	1.2	290	.94
16	2.5	250	1.7	4.5	275	3.3	1.0	355	.96
17	2.5	320	2.2	4.5	180	2.2	1.0	420	1.1
18	2.5	265	1.8	4.5	470	5.7	1.0	485	1.3
19	2.5	210	1.4	4.5	754	9.2	1.0	550	1.5
20	2.5	155	1.0	4.5	525	6.4	1.2	620	2.0
21	2.5	175	1.2	4.5	300	3.6	1.7	400	1.8
22	2.5	195	1.3	5.0	310	4.2	1.7	196	.90
23	2.5	215	1.5	6.5	315	5.5	1.7	310	1.4
24	2.5	235	1.6	6.5	320	5.6	1.7	425	2.0
25	2.5	255	1.7	6.5	405	7.1	1.7	540	2.5
26	2.5	275	1.9	6.0	490	7.9	1.7	655	3.0
27	6.0	300	4.9	5.0	575	7.8	2.0	770	4.2
28	6.0	290	4.7	4.5	660	8.0	2.2	890	5.3
29	6.0	265	4.3	4.0	745	8.0	2.3	574	3.6
30	6.0	250	4.1	4.0	830	9.0	25	5200	350
31	5.0	235	3.2	---	---	---	9.0	3000	80
TOTAL	103.5	---	67.98	218.0	---	1147.9	101.6	---	532.50
DAY	JANUARY			FEBRUARY			MARCH		
	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	2.4	270	1.7	2.8	410	3.1	4.9	400	5.3
2	2.5	215	1.5	2.2	346	2.1	5.1	500	6.9
3	70	5800	1100	1.5	340	1.4	3.8	350	3.6
4	5.0	1500	35	2.4	374	2.4	6.0	310	5.0
5	15	3500	130	1.7	370	1.7	5.1	250	3.4
6	115	3900	1200	1.7	375	1.7	4.0	200	2.2
7	10	1000	27	1.5	380	1.5	3.0	150	1.2
8	7.0	562	11	1.9	400	2.1	4.2	158	1.8
9	5.0	500	6.8	2.0	411	2.2	4.2	160	1.8
10	4.0	450	4.9	2.2	380	2.3	3.6	200	1.9
11	3.0	400	3.2	2.7	350	2.6	3.0	220	1.8
12	2.5	450	3.0	3.0	322	2.6	3.2	250	2.2
13	2.0	400	2.2	2.4	320	2.1	2.5	280	1.9
14	1.8	325	1.6	1.9	318	1.6	1.9	310	1.6
15	1.5	315	1.3	1.7	316	1.5	1.2	250	.81
16	1.5	316	1.3	2.5	314	2.1	17	2740	270
17	1.5	311	1.3	1.7	312	1.4	10	513	14
18	1.5	306	1.2	1.6	310	1.3	9.5	390	10
19	1.5	302	1.2	2.8	308	2.3	9.3	264	6.6
20	1.5	136	.55	1.9	306	1.6	15	576	23
21	3.8	220	2.3	1.8	304	1.5	15	450	18
22	3.2	310	2.7	1.8	300	1.5	15	320	13
23	3.2	402	3.5	4.4	1540	30	15	205	8.3
24	2.1	425	2.4	48	3020	870	13	205	7.2
25	2.1	445	2.5	6.4	590	10	44	2280	407
26	1.9	470	2.4	3.0	168	1.4	14	450	17
27	1.6	490	2.1	5.6	760	11	3.0	288	2.3
28	1.9	510	2.6	3.6	200	1.9	1.5	267	1.1
29	2.2	532	3.2	---	---	---	1.5	267	1.1
30	2.4	530	3.4	---	---	---	2.1	266	1.5
31	2.2	470	2.8	---	---	---	2.4	265	1.7
TOTAL	280.8	---	2564.65	116.7	---	966.9	243.0	---	843.21

11048500 SAN DIEGO CREEK AT SAND CANYON AVENUE, NEAR IRVINE, CA--Continued

## SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

APRIL				MAY				JUNE	
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	2.8	264	2.0	.50	100	.14	1.1	190	.56
2	3.0	252	2.0	.97	130	.34	1.2	190	.62
3	2.8	237	1.8	.67	124	.22	1.9	300	1.5
4	2.5	235	1.6	.39	120	.13	1.2	200	.65
5	2.2	235	1.4	.81	130	.28	1.8	250	1.2
6	1.8	235	1.1	.89	130	.31	1.6	250	1.1
7	1.9	235	1.2	.97	130	.34	2.1	300	1.7
8	1.6	235	1.0	.76	4900	1000	2.1	325	1.8
9	1.1	238	.71	.65	4000	700	2.2	356	2.1
10	.85	200	.46	2.8	500	3.8	2.2	584	3.5
11	.70	200	.38	2.2	118	.70	2.1	262	1.5
12	.67	200	.36	2.0	193	1.0	1.1	200	.59
13	.34	190	.17	1.9	194	1.0	.67	195	.35
14	.44	200	.24	1.8	195	.95	.50	194	.26
15	.55	250	.37	1.7	196	.90	.61	1400	2.3
16	.49	300	.40	1.7	196	.90	.49	1020	1.3
17	.17	318	.15	1.1	197	.59	.49	1060	1.4
18	.27	305	.22	1.3	198	.69	.27	1100	.80
19	.35	310	.29	1.3	218	.77	.30	1140	.92
20	.55	320	.48	1.3	238	.84	.55	1180	1.8
21	.44	320	.38	1.9	240	1.2	.67	1200	2.2
22	1.6	448	1.9	1.3	180	.63	.67	1090	2.0
23	.61	350	.58	1.7	114	.52	.89	650	1.6
24	1.4	470	1.8	2.2	344	2.0	.81	214	.47
25	.81	400	.87	1.1	150	.45	1.2	1060	3.4
26	.67	375	.68	.89	120	.29	1.3	1950	6.8
27	1.3	478	1.7	1.1	150	.45	1.8	2050	10
28	.61	300	.49	.67	120	.22	1.8	2160	10
29	.23	36	.02	1.3	200	.70	2.2	1950	12
30	.27	50	.04	1.6	250	1.1	2.1	1750	9.9
31	---	---	---	1.3	200	.70	---	---	---
TOTAL	33.02	---	24.79	180.36	---	1722.16	37.92	---	84.32
JULY				AUGUST				SEPTEMBER	
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	2.5	1560	11	2.0	2800	15	7.4	250	5.0
2	2.8	1500	11	1.0	2930	7.9	5.9	265	4.2
3	2.4	1440	9.3	1.1	2100	6.2	7.9	270	5.8
4	2.2	1750	10	1.5	1300	5.3	6.1	150	2.5
5	2.1	2140	12	2.2	512	3.0	4.4	85	1.0
6	1.9	2100	11	2.8	536	4.1	4.1	80	.89
7	1.7	2050	9.4	2.8	560	4.2	4.8	110	1.4
8	1.7	2000	9.2	3.2	585	5.1	4.6	100	1.2
9	1.6	1500	6.5	3.8	608	6.2	5.8	250	3.9
10	1.2	1000	3.2	5.6	700	11	4.6	110	1.4
11	1.0	500	1.4	4.6	650	8.1	6.1	260	4.3
12	.97	320	.84	3.2	600	5.2	4.5	90	1.1
13	1.3	600	2.1	5.9	750	12	3.8	60	.62
14	1.4	851	3.2	3.0	700	5.7	2.0	30	.16
15	1.6	1000	4.3	2.7	680	5.0	2.5	35	.24
16	2.3	1200	7.5	6.9	857	53	3.0	40	.32
17	2.2	1230	7.3	151	2670	1380	4.4	85	1.0
18	2.1	1200	6.8	13	750	26	2.8	35	.26
19	2.2	1270	7.5	7.3	205	4.0	2.1	30	.17
20	2.2	1340	8.0	7.0	197	3.7	1.7	21	.10
21	1.9	1400	7.2	5.6	137	2.1	2.9	135	1.1
22	2.7	1500	11	7.9	220	4.7	3.0	135	1.1
23	1.9	1420	7.3	7.6	200	4.1	2.9	138	1.1
24	2.1	1400	7.9	8.6	278	6.5	5.9	180	2.9
25	1.6	800	3.5	8.6	270	6.3	4.6	157	1.9
26	1.6	523	2.3	7.3	250	4.9	3.8	140	1.4
27	1.6	660	2.9	9.3	280	7.0	2.8	120	.91
28	1.8	800	3.9	8.6	220	5.1	2.2	109	.65
29	1.1	941	2.8	8.2	200	4.4	2.1	100	.57
30	2.8	2000	15	7.4	150	3.0	1.8	90	.44
31	3.0	2620	21	7.4	200	4.0	---	---	---
TOTAL	59.47	---	226.34	317.1	---	1622.8	120.5	---	47.63
YEAR	1811.97		9851.18						

## SAN DIEGO CREEK BASIN

11048500 SAN DIEGO CREEK AT SAND CANYON AVENUE, NEAR IRVINE, CA--Continued

## SUMMARY OF WATER AND SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

MONTH	WATER DISCHARGE CFS-DAYS	SUSPENDED SEDIMENT DISCHARGE TONS	BEDLOAD DISCHARGE TONS	TOTAL SEDIMENT DISCHARGE TONS
OCTOBER 1976	103.50	67.98	130	198
NOVEMBER ...	218.00	1147.90	921	2070
DECEMBER ...	101.60	532.50	244	776
JANUARY 1977	280.80	2564.65	2010	4580
FEBRUARY ...	116.70	966.90	473	1440
MARCH .....	243.00	843.21	989	1830
APRIL .....	33.02	24.79	18	43
MAY .....	180.36	1722.16	1340	3070
JUNE .....	37.92	84.32	19	103
JULY .....	59.47	226.34	40	266
AUGUST .....	317.10	1622.80	1990	3620
SEPTEMBER ..	120.50	47.63	190	238
TOTAL .....	1811.97	9851.18	8364	18234

## PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	TEMPER- ATURE (DEG C)	INSTAN- TANEOUS DIS- CHARGE (CFS)	SUS- PENDE SEDIM- ENT (MG/L)	SUS- PENDE DIS- CHARGE (T/DAY)	SUS. SED. FALL DIAM. % FINER THAN .002 MM	SUS. SED. FALL DIAM. % FINER THAN .004 MM	SUS. SED. FALL DIAM. % FINER THAN .008 MM	SUS. SED. FALL DIAM. % FINER THAN .016 MM	SUS. SED. FALL DIAM. % FINER THAN .031 MM	SUS. SED. FALL DIAM. % FINER THAN .062 MM
NOV											
05...	1315	21.0	4.9	146	1.9	--	--	--	--	--	--
12...	1255	17.5	10	1510	41	72	75	78	80	84	86
30...	0920	9.5	6.1	201	3.3	--	--	--	--	--	--
DEC											
22...	1320	13.5	1.8	2080	10	66	77	88	96	99	100
31...	0730	12.0	9.0	540	13	57	62	64	66	68	--
JAN											
02...	0755	11.0	3.2	214	1.8	--	--	--	--	--	--
03...	0845	11.5	92	4090	1020	45	46	50	56	57	63
03...	0935	11.5	72	2810	546	33	38	42	45	50	56
03...	1255	13.0	29	1440	113	32	33	35	38	43	50
06...	0840	13.0	259	8920	6240	19	20	21	23	27	33
06...	1205	11.0	480	10900	14100	23	26	30	33	38	46
07...	0950	10.5	158	6080	2590	28	29	30	36	41	49
19...	1145	16.0	1.2	302	.98	--	--	--	--	--	--
FEB											
09...	1505	18.0	4.0	254	2.7	76	89	92	94	95	--
23...	1500	16.5	8.6	3150	73	45	51	58	71	82	87
24...	1115	12.0	91	5760	1420	28	33	40	47	56	66
24...	1530	12.0	162	8570	3750	22	25	29	34	42	52
MAR											
16...	1200	13.0	73	9430	1860	43	43	55	65	76	83
APR											
17...	0830	16.5	.14	318	.12	--	--	--	--	--	--
MAY											
09...	1430	16.5	25	1400	94	36	37	41	45	48	--
JUN											
22...	0955	20.0	.89	1090	2.6	56	71	82	90	95	--
AUG											
17...	1055	23.5	387	3490	3650	39	43	49	54	61	--
17...	1550	23.5	158	2590	1110	29	32	35	39	45	53

WATER-QUALITY RECORDS

	SUS. SED. SIEVE DIAM. % FINER THAN .062 MM	SUS. SED. FALL DIAM. % FINER THAN .125 MM	SUS. SED. SIEVE DIAM. % FINER THAN .125 MM	SUS. SED. FALL DIAM. % FINER THAN .250 MM	SUS. SED. SIEVE DIAM. % FINER THAN .250 MM	SUS. SED. FALL DIAM. % FINER THAN .500 MM	SUS. SED. SIEVE DIAM. % FINER THAN .500 MM	SUS. SED. FALL DIAM. % FINER THAN 1.00 MM	SUS. SED. SIEVE DIAM. % FINER THAN 1.00 MM	SUS. SED. SIEVE DIAM. % FINER THAN 2.00 MM
NOV										
05...	69	--	71	--	82	--	96	--	100	--
12...	--	92	--	100	--	--	--	--	--	--
30...	83	--	93	--	99	--	100	--	--	--
DEC										
22...	--	--	--	--	--	--	--	--	--	--
31...	71	--	78	--	96	--	100	--	--	--
JAN										
02...	93	--	96	--	100	--	--	--	--	--
03...	--	76	--	93	--	99	--	100	--	--
03...	--	67	--	90	--	100	--	--	--	--
03...	--	66	--	88	--	100	--	--	--	--
06...	--	45	--	70	--	94	--	100	--	--
06...	--	66	--	88	--	98	--	100	--	--
07...	--	67	--	86	--	97	--	100	--	--
19...	87	--	91	--	98	--	100	--	--	--
FEB										
09...	95	--	97	--	99	--	100	--	--	--
23...	--	94	--	100	--	--	--	--	--	--
24...	--	81	--	97	--	100	--	--	--	--
24...	--	68	--	91	--	99	--	100	--	--
MAR										
16...	--	91	--	98	--	100	--	--	--	--
APR										
17...	100	--	--	--	--	--	--	--	--	--
MAY										
09...	56	--	74	--	90	--	96	--	98	98
JUN										
22...	97	--	97	--	99	--	100	--	--	--
AUG										
17...	68	--	78	--	86	--	94	--	99	100
17...	--	67	--	87	--	100	--	--	--	--

DATE	TIME	TEMPER- ATURE (DEG C)	NUMBER OF SAM- PLING POINTS	INSTAN- TANEOUS DIS- CHARGE (CFS)	BED MAT. SIEVE DIAM. % FINER THAN .062 MM	BED MAT. SIEVE DIAM. % FINER THAN .125 MM	BED MAT. SIEVE DIAM. % FINER THAN .250 MM
AUG 17...	1335	23.5	3	9.3	2	7	28
	BED MAT. SIEVE DIAM. % FINER THAN .500 MM	BED MAT. SIEVE DIAM. % FINER THAN 1.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 2.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 4.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 8.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 16.0 MM	BED MAT. SIEVE DIAM. % FINER THAN 32.0 MM
AUG 17...	48	69	86	93	96	97	100

DATE	TIME	TEMPER- ATURE (DEG C)	NUMBER OF SAM- PLING POINTS	INSTAN- TANEOUS DIS- CHARGE (CFS)	STREAM WIDTH (FT)	SEDI- MENT BEDLOAD DIS- CHARGE (T/DAY)	BEDLOAD SIEVE DIAM. % FINER THAN .062 MM
AUG 17...	1325	23.5	8	9.3	8.6	7.7	0
DATE		SED. BEDLOAD SIEVE DIAM. % FINER THAN	SED. BEDLOAD SIEVE DIAM. % FINER THAN	SED. BEDLOAD SIEVE DIAM. % FINER THAN	SED. BEDLOAD SIEVE DIAM. % FINER THAN	SED. BEDLOAD SIEVE DIAM. % FINER THAN	SED. BEDLOAD SIEVE DIAM. % FINER THAN
		.125 MM	.250 MM	.500 MM	1.00 MM	2.00 MM	4.00 MM
AUG 17...		2	21	66	90	99	100

## 11048530 EL MODENA-IRVINE CHANNEL NEAR IRVINE, CA

LOCATION.--Lat 33°42'49", long 117°48'01", in Lomas Santiago Grant, Orange County, on downstream side of county road bridge, 50 ft (30 m) west of intersection of Myford Road and Walnut Avenue, 0.5 mi (0.8 km) southwest of Interstate 5.

PERIOD OF RECORD.--October 1974 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 60 ft (19 m), from topographic map.

COOPERATION.--Records of discharge were furnished by Orange County Flood Control District and reviewed by the Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,070 ft<sup>3</sup>/s (30.3 m<sup>3</sup>/s) Nov. 12, 1976; gage height, 6.49 ft (1.978 m), maximum gage height, 8.40 ft (2.560 m) Dec. 4, 1974 (channel aggradation); minimum daily, 0.10 ft<sup>3</sup>/s (0.003 m<sup>3</sup>/s) for several days in 1975, 1976, and 1977 water years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,070 ft<sup>3</sup>/s (30.3 m<sup>3</sup>/s) Nov. 12, gage height, 6.49 ft (1.978 m); minimum daily, 0.10 ft<sup>3</sup>/s (0.003 m<sup>3</sup>/s) several days in March and April.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.60	.60	.40	.70	.70	.40	.10	.20	.90	1.5	1.6	.90
2	.70	.90	.60	10	.80	.60	.10	.30	1.0	1.3	1.7	.90
3	.90	.90	.90	35	.90	.70	.10	.20	.80	1.5	2.2	.80
4	.90	1.0	1.2	.60	.70	.70	.10	.30	.70	1.7	1.7	.80
5	.70	1.2	.90	15	1.0	.40	.10	.40	.70	2.0	2.4	.80
6	.70	1.9	.70	64	1.4	.40	.10	.20	.70	1.7	1.9	.80
7	1.1	2.7	.70	11	.90	.70	.10	.20	.70	1.6	1.8	.90
8	.70	2.2	.70	.80	.60	.40	.10	48	.80	1.7	2.0	.70
9	1.1	1.9	.90	.70	.60	.50	.10	45	.70	2.2	2.2	.70
10	1.0	1.3	.70	.70	.70	.80	.10	.90	1.0	2.8	2.5	.70
11	1.8	2.0	.80	.70	.90	.90	.10	.70	.90	2.8	2.0	.70
12	1.1	42	.90	.70	.90	1.1	.10	.70	.90	2.2	2.4	.90
13	.90	.30	1.1	.70	.70	.90	.20	.70	1.0	1.5	2.1	.90
14	1.1	.30	.50	.70	.70	.70	.20	.70	1.0	1.2	2.5	1.0
15	2.0	.30	.40	.70	.80	.50	.20	.70	1.1	1.6	2.2	1.2
16	2.0	.40	.70	.70	.60	6.6	.30	.80	1.3	1.4	14	1.7
17	2.0	.40	1.0	.60	.70	.70	.30	.80	1.3	1.2	110	2.0
18	1.0	.40	1.2	.60	.70	.30	.20	.80	1.3	1.5	2.9	1.7
19	1.2	.50	1.0	.90	.80	.40	.20	1.0	1.4	1.2	.60	1.7
20	1.9	.50	1.5	1.3	1.0	.30	.20	1.0	1.3	1.5	.60	1.6
21	1.6	.60	1.4	3.1	1.0	.40	.20	1.0	1.3	2.0	.50	1.8
22	3.9	.60	2.1	1.2	.80	.40	.20	1.0	1.2	2.4	.50	1.9
23	.80	.60	1.4	1.3	11	.40	.10	1.0	1.0	2.1	.50	1.7
24	.60	.90	.50	1.4	45	.50	.10	7.4	1.0	1.9	.50	1.3
25	.90	.40	.40	1.1	1.1	30	.20	.90	1.1	1.8	.50	1.9
26	1.2	.80	.40	.60	.70	.40	.20	.90	1.3	1.5	.50	1.3
27	.80	.90	.70	.60	.50	.20	.20	.90	1.2	1.7	.50	1.3
28	1.8	.40	.90	.60	.40	.20	.20	.60	1.3	1.6	.60	1.6
29	1.7	.40	.70	.60	---	.10	.20	.70	1.5	2.4	.70	1.3
30	.90	.60	20	.60	---	.10	.20	.70	1.4	1.3	.80	1.7
31	.50	---	4.3	.60	---	.10	---	.80	---	2.0	.90	---
TOTAL	38.10	67.90	49.60	157.80	76.60	50.80	4.80	119.50	31.80	54.8	165.80	37.20
MEAN	1.23	2.26	1.60	5.09	2.74	1.64	.16	3.85	1.06	1.77	5.35	1.24
MAX	3.9	42	20	64	45	30	.30	48	1.5	2.8	110	2.0
MIN	.50	.30	.40	.60	.40	.10	.10	.20	.70	1.2	.50	.70
AC-FT	76	135	98	313	152	101	9.5	237	63	109	329	74
CAL YR 1976	TOTAL	821.30	MEAN	2.24	MAX	101	MIN	.20	AC-FT	1630		
WTR YR 1977	TOTAL	854.70	MEAN	2.34	MAX	110	MIN	.10	AC-FT	1700		



WATER-QUALITY RECORDS

WATER TEMPERATURES: October 1974 to current year.  
SEDIMENT RECORDS: October 1974 to current year.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 3,230 mg/l Dec. 4, 1974; minimum daily mean, 1 mg/l Feb. 18, 1976.  
SEDIMENT DISCHARGE: Maximum daily, 3,050 tons (2,770 tonnes) Dec. 4, 1974; minimum daily, 0 tons  
Feb. 12-18, 1976.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,310 mg/l Nov. 12; minimum daily mean, 4 mg/l Jan. 13, 14.  
SEDIMENT DISCHARGE: Maximum daily, 1,450 tons (943 tonnes) Nov. 12; minimum daily, 0.01 tons (0.01 tonnes) many days during January to April.

[illegible]

11048530 EL MODENA-IRVINE CHANNEL NEAR IRVINE, CA--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY); WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	OCTOBER			NOVEMBER			DECEMBER		
	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	.60	26	.04	.60	60	.10	.40	60	.06
2	.70	24	.05	.90	50	.12	.60	18	.03
3	.90	23	.06	.90	40	.10	.90	40	.10
4	.90	23	.06	1.0	42	.11	1.2	100	.32
5	.70	23	.04	1.2	26	.08	.90	100	.24
6	.70	23	.04	1.9	100	.51	.70	80	.15
7	1.1	29	.09	2.7	178	1.3	.70	60	.11
8	.70	30	.06	2.2	180	1.1	.70	52	.10
9	1.1	50	.15	1.9	190	.97	.90	72	.17
10	1.0	100	.27	1.3	197	.69	.70	50	.09
11	1.8	100	.49	2.0	200	1.1	.80	14	.03
12	1.1	70	.21	42	1310	1450	.90	20	.05
13	.90	50	.12	.30	20	.02	1.1	70	.21
14	1.1	72	.21	.30	8	.01	.50	30	.04
15	2.0	70	.38	.30	25	.02	.40	20	.02
16	2.0	68	.37	.40	55	.06	.70	40	.08
17	2.0	66	.36	.40	98	.11	1.0	50	.14
18	1.0	50	.14	.40	77	.08	1.2	60	.19
19	1.2	40	.13	.50	56	.08	1.0	76	.21
20	1.9	36	.18	.50	41	.06	1.5	90	.36
21	1.6	35	.15	.60	26	.04	1.4	80	.30
22	3.9	140	7.8	.60	31	.05	2.1	86	.49
23	.80	80	.17	.60	36	.06	1.4	70	.26
24	.60	80	.13	.90	55	.13	.50	40	.05
25	.90	80	.19	.40	40	.04	.40	30	.03
26	1.2	80	.26	.80	45	.10	.40	20	.02
27	.80	80	.17	.90	50	.12	.70	20	.04
28	1.8	100	.49	.40	40	.04	.90	30	.07
29	1.7	95	.44	.40	40	.04	.70	18	.03
30	.90	80	.19	.60	127	.21	20	480	164
31	.50	70	.09	---	---	---	4.3	114	3.7
TOTAL	38.10	---	13.53	67.90	---	1457.45	49.60	---	171.69

DAY	JANUARY			FEBRUARY			MARCH		
	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	.70	16	.03	.70	45	.09	.40	25	.03
2	10	213	48	.80	46	.10	.60	50	.08
3	35	790	365	.90	46	.11	.70	74	.14
4	.60	30	.05	.70	46	.09	.70	31	.06
5	15	309	99	1.0	50	.14	.40	25	.03
6	64	1020	403	1.4	60	.23	.40	25	.03
7	11	118	8.1	.90	60	.15	.70	25	.05
8	.80	12	.03	.60	63	.10	.40	19	.02
9	.70	10	.02	.60	66	.11	.50	25	.03
10	.70	5	.01	.70	55	.10	.80	100	.22
11	.70	5	.01	.90	44	.11	.90	148	.36
12	.70	5	.01	.90	34	.08	1.1	150	.45
13	.70	4	.01	.70	35	.07	.90	100	.24
14	.70	4	.01	.70	35	.07	.70	22	.04
15	.70	10	.02	.80	35	.08	.50	112	.15
16	.70	17	.03	.60	30	.05	6.6	318	39
17	.60	12	.02	.70	35	.07	.70	72	.14
18	.60	10	.02	.70	35	.07	.30	82	.07
19	.90	5	.01	.80	35	.08	.40	71	.08
20	1.3	134	.47	1.0	40	.11	.30	39	.03
21	3.1	150	1.3	1.0	40	.11	.40	45	.05
22	1.2	75	.24	.80	33	.07	.40	49	.05
23	1.3	53	.19	11	349	31	.40	53	.06
24	1.4	58	.22	45	760	456	.50	53	.07
25	1.1	64	.19	1.1	29	.09	30	622	359
26	.60	69	.11	.70	12	.02	.40	12	.01
27	.60	60	.10	.50	20	.03	.20	96	.05
28	.60	51	.08	.40	20	.02	.20	93	.05
29	.60	44	.07	---	---	---	.10	50	.01
30	.60	45	.07	---	---	---	.10	40	.01
31	.60	45	.07	---	---	---	.10	36	.01
TOTAL	157.80	---	926.49	76.60	---	489.35	50.80	---	400.62

11048530 EL MODENA-IRVINE CHANNEL NEAR IRVINE, CA--Continued

## SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

APRIL				MAY				JUNE			
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)		
1	.10	36	.01	.20	65	.04	.90	30	.07		
2	.10	51	.01	.30	68	.06	1.0	40	.11		
3	.10	66	.02	.20	71	.04	.80	30	.06		
4	.10	60	.02	.30	70	.06	.70	30	.06		
5	.10	54	.01	.40	70	.08	.70	30	.06		
6	.10	48	.01	.20	70	.04	.70	29	.05		
7	.10	42	.01	.20	70	.04	.70	30	.06		
8	.10	36	.01	48	1110	252	.80	35	.08		
9	.10	30	.01	45	978	248	.70	35	.07		
10	.10	38	.01	.90	100	.24	1.0	140	.38		
11	.10	46	.01	.70	100	.19	.90	35	.09		
12	.10	54	.01	.70	102	.19	.90	45	.11		
13	.20	69	.04	.70	60	.11	1.0	50	.14		
14	.20	75	.04	.70	20	.04	1.0	58	.16		
15	.20	81	.04	.70	19	.04	1.1	196	.58		
16	.30	90	.07	.80	18	.04	1.3	196	.69		
17	.30	104	.08	.80	16	.03	1.3	150	.53		
18	.20	56	.03	.80	15	.03	1.3	110	.39		
19	.20	59	.03	1.0	20	.05	1.4	70	.26		
20	.20	62	.03	1.0	23	.06	1.3	40	.14		
21	.20	65	.04	1.0	20	.05	1.3	20	.07		
22	.20	66	.04	1.0	20	.05	1.2	88	.29		
23	.10	59	.02	1.0	18	.05	1.0	40	.11		
24	.10	57	.02	7.4	164	16	1.0	18	.05		
25	.20	57	.03	.90	50	.12	1.1	30	.09		
26	.20	57	.03	.90	45	.11	1.3	56	.20		
27	.20	57	.03	.90	40	.10	1.2	30	.10		
28	.20	59	.03	.60	30	.05	1.3	23	.08		
29	.20	61	.03	.70	30	.06	1.5	25	.10		
30	.20	63	.03	.70	30	.06	1.4	25	.09		
31	---	---	---	.80	30	.06	---	---	---		
TOTAL	4.80	---	.80	119.50	---	518.09	31.80	---	5.27		

JULY				AUGUST				SEPTEMBER			
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)		
1	1.5	50	.20	1.6	135	.58	.90	150	.36		
2	1.3	100	.35	1.7	59	.27	.90	191	.46		
3	1.5	159	.64	2.2	100	.59	.80	150	.32		
4	1.7	100	.46	1.7	100	.46	.80	100	.22		
5	2.0	78	.42	2.4	238	1.5	.80	68	.15		
6	1.7	72	.33	1.9	175	.90	.80	70	.15		
7	1.6	66	.29	1.8	150	.73	.90	70	.17		
8	1.7	62	.28	2.0	150	.81	.70	70	.13		
9	2.2	90	.53	2.2	125	.74	.70	70	.13		
10	2.8	150	1.1	2.5	200	1.4	.70	70	.13		
11	2.8	200	1.5	2.0	150	.81	.70	70	.13		
12	2.2	235	1.4	2.4	200	1.3	.90	70	.17		
13	1.5	200	.81	2.1	175	.99	.90	70	.17		
14	1.2	196	.64	2.5	200	1.4	1.0	80	.22		
15	1.6	180	.78	2.2	234	1.4	1.2	80	.26		
16	1.4	130	.49	14	411	194	1.7	85	.39		
17	1.2	138	.45	110	944	528	2.0	90	.49		
18	1.5	140	.57	2.9	45	.35	1.7	90	.41		
19	1.2	140	.45	.60	150	.24	1.7	90	.41		
20	1.5	150	.61	.60	59	.10	1.6	89	.38		
21	2.0	300	1.6	.50	64	.09	1.8	110	.53		
22	2.4	370	2.4	.50	40	.05	1.9	140	.72		
23	2.1	365	2.1	.50	35	.05	1.7	152	.70		
24	1.9	260	1.3	.50	18	.02	1.3	140	.49		
25	1.8	245	1.2	.50	50	.07	1.9	213	1.1		
26	1.5	233	.94	.50	80	.11	1.3	150	.53		
27	1.7	230	1.1	.50	120	.16	1.3	150	.53		
28	1.6	230	.99	.60	141	.23	1.6	179	.77		
29	2.4	248	1.6	.70	110	.21	1.3	140	.49		
30	1.3	200	.70	.80	88	.19	1.7	160	.73		
31	2.0	209	1.1	.90	100	.24	---	---	---		
TOTAL	54.8	---	27.33	165.80	---	737.99	37.20	---	11.84		
YEAR	854.70		4760.45								

11048530 EL MODENA-IRVINE CHANNEL NEAR IRVINE, CA--Continued

## SUMMARY OF WATER AND SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

MONTH	WATER DISCHARGE CFS-DAYS	SUSPENDED SEDIMENT DISCHARGE TONS	BEDLOAD DISCHARGE TONS	TOTAL SEDIMENT DISCHARGE TONS
OCTOBER 1976	38.10	13.53	0	14
NOVEMBER ...	67.90	1457.45	26	1480
DECEMBER ...	49.60	171.69	3	175
JANUARY 1977	157.80	926.49	98	1020
FEBRUARY ...	76.60	489.35	32	521
MARCH .....	50.80	400.62	10	411
APRIL .....	4.80	0.80	0	1
MAY .....	119.50	518.09	70	588
JUNE .....	31.80	5.27	0	5
JULY .....	54.80	27.33	0	27
AUGUST .....	165.80	737.99	301	1040
SEPTEMBER ..	37.20	11.84	0	12
TOTAL .....	854.70	4760.45	540	5294

## PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	TEMPER- ATURE (DEG C)	INSTAN- TANEOUS DIS- CHARGE (CFS)	SUS- PENDE SEDIM- ENT DIS- CHARGE (MG/L)	SUS- PENDE SEDIM- ENT DIS- CHARGE (T/DAY)	SUS. SED. FALL DIAM. % FINER THAN .002 MM	SUS. SED. FALL DIAM. % FINER THAN .004 MM	SUS. SED. FALL DIAM. % FINER THAN .008 MM	SUS. SED. FALL DIAM. % FINER THAN .016 MM	SUS. SED. FALL DIAM. % FINER THAN .031 MM	SUS. SED. FALL DIAM. % FINER THAN .062 MM
NOV											
12...	0910	16.5	2.5	177	1.2	--	--	--	--	--	--
DEC											
22...	1030	10.0	2.5	64	.43	--	--	--	--	--	--
JAN											
06...	0620	9.5	120	2810	910	22	23	26	30	37	49
06...	0730	8.0	340	5030	4620	28	29	31	36	42	53
06...	1225	11.0	67	883	160	45	51	57	63	71	--
07...	0920	10.0	15	149	6.0	--	--	--	--	--	--
FEB											
24...	1140	12.0	134	2950	1070	36	42	48	56	67	77
24...	1555	12.5	144	2220	863	27	31	35	45	48	57
MAR											
04...	1125	--	.58	31	.05	--	--	--	--	--	--
15...	1245	21.0	1.3	112	.39	--	--	--	--	--	--
16...	1155	13.5	77	4660	969	51	56	61	72	84	--
25...	0940	11.5	3.4	227	2.1	74	84	91	95	96	--
MAY											
24...	0910	16.5	9.9	302	8.1	49	63	74	83	88	--
AUG											
17...	1030	24.0	206	1310	729	40	44	51	58	67	--
17...	1715	24.0	83	455	102	32	37	44	49	56	--
SEP											
28...	1205	20.0	1.8	179	.87	--	--	--	--	--	--

11048530 EL MODENA-IRVINE CHANNEL NEAR IRVINE, CA--Continued

## PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	SUS. SED. SIEVE DIAM. % FINER THAN .062 MM	SUS. SED. FALL DIAM. % FINER THAN .125 MM	SUS. SED. SIEVE DIAM. % FINER THAN .125 MM	SUS. SED. FALL DIAM. % FINER THAN .250 MM	SUS. SED. SIEVE DIAM. % FINER THAN .250 MM	SUS. SED. FALL DIAM. % FINER THAN .500 MM	SUS. SED. SIEVE DIAM. % FINER THAN .500 MM	SUS. SED. FALL DIAM. % FINER THAN 1.00 MM	SUS. SED. SIEVE DIAM. % FINER THAN 1.00 MM	SUS. SED. FALL DIAM. % FINER THAN 2.00 MM	SUS. SED. SIEVE DIAM. % FINER THAN 2.00 MM
NOV 12...	100	--	--	--	--	--	--	--	--	--	--
DEC 22...	100	--	--	--	--	--	--	--	--	--	--
JAN 06...	--	64	--	72	--	83	--	99	--	100	--
06...	--	71	--	92	--	99	--	100	--	--	--
06...	79	--	86	--	93	--	96	--	98	--	98
07...	57	--	59	--	68	--	99	--	100	--	--
FEB 24...	--	89	--	99	--	100	--	--	--	--	--
24...	--	73	--	97	--	100	--	--	--	--	--
MAR 04...	92	--	94	--	98	--	99	--	100	--	--
15...	46	--	83	--	98	--	100	--	--	--	--
16...	92	--	94	--	97	--	100	--	--	--	--
25...	97	--	99	--	100	--	--	--	--	--	--
MAY 24...	89	--	92	--	96	--	100	--	--	--	--
AUG 17...	78	--	84	--	89	--	94	--	96	--	100
17...	62	--	69	--	79	--	96	--	100	--	--
SEP 28...	100	--	--	--	--	--	--	--	--	--	--

## PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	NUMBER OF SAM- PLING POINTS	INSTAN- TANEOUS DIS- CHARGE (CFS)	BED MAT. SIEVE DIAM. % FINER THAN .062 MM	BED MAT. SIEVE DIAM. % FINER THAN .125 MM	BED MAT. SIEVE DIAM. % FINER THAN .250 MM	BED MAT. SIEVE DIAM. % FINER THAN .500 MM
AUG 18...	1545	3	1.0	3	8	25	49

DATE	BED MAT. SIEVE DIAM. % FINER THAN 1.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 2.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 4.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 8.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 16.0 MM	BED MAT. SIEVE DIAM. % FINER THAN 32.0 MM	BED MAT. SIEVE DIAM. % FINER THAN 64.0 MM
AUG 18...	63	72	83	89	94	99	100

## SAN DIEGO CREEK BASIN

11048550 SAN DIEGO CREEK AT LANE ROAD, NEAR IRVINE, CA

LOCATION.--Lat 33°40'18", long 117°50'06", in NW¼ sec.60, T.6 S., R.8 W., in San Joaquin Grant, Orange County, on downstream side of abandoned county road bridge 800 ft (200 m) north of the San Diego Freeway (Interstate 405), 0.2 mi (0.3 km) downstream from Lane Road, and 1.7 mi (2.7 km) north of University of California at Irvine.

PERIOD OF RECORD.--October 1973 to current year. Previous records published by Orange County Environmental Management Agency.

GAGE.--Water-stage recorder. Altitude of gage is 30 ft (9.1 m), from topographic map.

REMARKS.--Records poor because of undefined rating above 100 ft<sup>3</sup>/s (2.83 m<sup>3</sup>/s). Low-flow discharge is affected by ground-water pumping and irrigation runoff. Beginning in August 1976 part of the discharge that enters creek from approximately 40 acres (1.6 hm<sup>2</sup>) is now diverted around station and re-enters stream 0.4 mi (0.6 km) downstream.

COOPERATION.--Records were furnished by Orange County Environmental Management Agency.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,000 ft<sup>3</sup>/s (113 m<sup>3</sup>/s) Dec. 4, 1974, gage height, 8.76 ft (2.760 m), from rating curve extended above 100 ft<sup>3</sup>/s (2.83 m<sup>3</sup>/s); minimum daily, 4.2 ft<sup>3</sup>/s (0.12 m<sup>3</sup>/s) Dec. 31, 1974.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,085 ft<sup>3</sup>/s (30.7 m<sup>3</sup>/s) Jan. 3, gage height, 6.35 ft (1.935 m), from rating curve extended above 100 ft<sup>3</sup>/s (2.83 m<sup>3</sup>/s); minimum daily, 4.3 ft<sup>3</sup>/s (0.12 m<sup>3</sup>/s) Oct. 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.8	12	8.3	7.5	6.2	8.0	8.5	6.0	8.7	12	14	14
2	7.3	12	8.4	11	6.3	8.1	8.2	6.2	8.9	12	14	15
3	6.1	12	8.4	190	6.4	8.3	7.7	6.0	8.9	13	14	14
4	6.8	12	8.5	8.5	6.3	8.3	7.5	6.0	9.0	13	14	14
5	6.6	13	8.6	42	6.3	8.0	7.5	6.0	9.0	13	14	14
6	11	16	8.6	320	6.4	8.0	7.3	6.0	9.2	13	14	14
7	11	16	8.6	77	6.4	8.2	7.0	6.1	9.4	14	14	14
8	6.8	15	8.7	11	8.5	8.3	6.6	230	9.6	14	14	14
9	8.1	12	8.8	10	7.0	8.5	6.2	175	9.7	14	14	14
10	8.4	12	8.9	10	7.2	9.0	5.8	16	9.8	14	14	14
11	9.9	12	9.0	9.8	7.7	9.0	5.0	6.5	9.8	14	15	14
12	7.3	200	9.4	9.4	7.4	9.4	5.0	6.5	9.9	13	15	14
13	6.1	21	10	9.0	7.2	9.9	5.0	6.6	10	14	14	15
14	4.3	11	9.4	8.7	7.2	9.8	5.2	6.7	10	14	14	15
15	6.8	7.4	9.1	8.3	7.3	9.3	5.3	6.7	10	13	14	15
16	9.9	7.2	9.1	8.0	7.5	28	5.4	6.8	10	13	18	15
17	9.6	7.0	9.5	7.6	7.7	14	5.6	6.8	11	13	485	15
18	9.3	7.2	10	7.2	7.7	9.0	5.8	6.9	11	17	23	14
19	8.1	7.4	10	7.2	7.8	8.8	6.0	7.2	11	19	17	14
20	9.9	7.6	10	7.2	7.7	8.7	5.8	7.4	11	16	16	14
21	17	7.8	9.5	13	7.7	8.6	5.5	7.6	11	15	16	14
22	18	8.0	9.6	7.3	7.8	8.7	5.5	7.8	12	15	15	14
23	21	8.2	8.5	7.3	47	8.8	5.5	8.0	12	15	15	14
24	9.9	8.3	8.0	7.4	154	8.9	5.7	30	12	15	15	14
25	6.8	8.3	7.5	7.3	16	105	5.8	8.2	12	15	15	14
26	9.3	8.3	7.2	7.8	8.3	9.4	5.7	8.4	12	15	15	14
27	8.7	8.3	7.0	7.2	8.0	9.0	5.7	8.5	12	14	15	14
28	11	8.3	7.0	7.0	8.0	8.8	5.8	8.5	12	14	15	14
29	17	8.3	7.0	6.7	---	8.7	5.9	8.5	12	14	15	14
30	14	8.3	7.0	6.4	---	8.7	6.0	8.5	12	14	15	14
31	8.4	---	25	6.2	---	8.7	---	8.5	---	14	15	---
TOTAL	301.2	501.9	347.8	853.0	399.0	391.9	183.5	643.9	314.9	438	937	426
MEAN	9.72	16.7	11.2	27.5	14.3	12.6	6.12	20.8	10.5	14.1	30.2	14.2
MAX	21	200	70	320	154	105	8.5	230	12	19	485	15
MIN	4.3	7.0	7.0	6.2	6.2	8.0	5.0	6.0	8.7	12	14	14
AC-FT	597	996	690	1690	791	777	364	1280	625	869	1860	845

CAL YR 1976 TOTAL 6536.0 MEAN 17.9 MAX 455 MIN 4.3 AC-FT 12960  
WTR YR 1977 TOTAL 5738.1 MEAN 15.7 MAX 485 MIN 4.3 AC-FT 11380

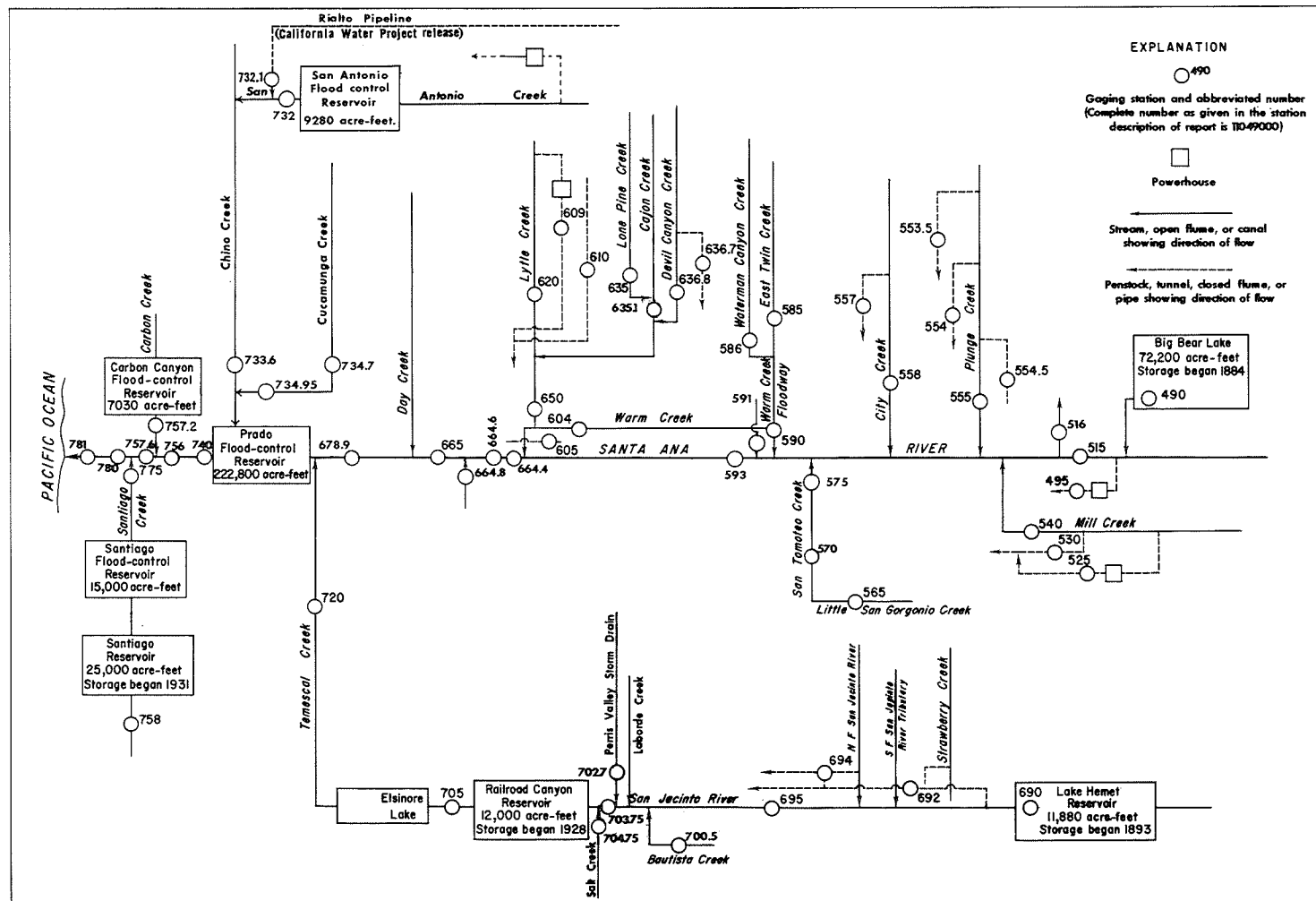


Figure 5.—Schematic diagram showing diversions and storage in Santa Ana River basin.

## SANTA ANA RIVER BASIN

## 11049000 BIG BEAR LAKE NEAR BIG BEAR LAKE, CA

LOCATION.--Lat 34°14'33", long 116°58'33", in SW¼ sec.22, T.2 N., R.1 W., San Bernardino County, at Big Bear Lake Dam on Bear Creek, 4 mi (6 km) west of town of Big Bear Lake, and 7.5 mi (12.1 km) upstream from mouth.

DRAINAGE AREA.--72.2 mi<sup>2</sup> (187.0 km<sup>2</sup>), including Baldwin Lake drainage.

PERIOD OF RECORD.--October 1950 to current year in reports of Geological Survey. February 1884 to September 1950 in files of Bear Valley Mutual Water Co.

GAGE.--Nonrecording gage. Datum of gage is 6,670.9 ft (2,033.290 m) above mean sea level (levels by Bear Valley Mutual Water Co.). Prior to 1912 at old dam 200 ft (61 m) upstream at same datum; spillway at gage height 52.4 ft (16.0 m).

REMARKS.--Lake is formed by multiple-arch concrete dam, completed in 1912, replacing existing lower dam built in 1884; storage began in spring of 1884. Capacity, 72,200 acre-ft (89.0 hm<sup>3</sup>) at elevation 6,743.2 ft (2,055.327 m), top of dam. Capacity table based on survey made in 1883. No dead storage. Water used for irrigation only. See schematic diagram of Santa Ana River basin.

COOPERATION.--Record of contents were furnished by Big Bear Municipal Water District.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents unknown, lake spilled in 1916, 1917, 1922, 1923, 1938, 1939, 1969, 1970; lake dry October, November 1898, August to November 1899, October, November 1904.

EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 37,690 acre-ft (46.5 hm<sup>3</sup>) Oct. 1; minimum contents observed, 32,530 acre-ft (40.1 hm<sup>3</sup>) Sept. 30.

## MONTHEND CONTENTS, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

Date	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30.....	37690	--
Oct. 31.....	36810	-880
Nov. 30.....	36640	-170
Dec. 31.....	36010	-630
CAL YR 1976.....	--	-7650
Jan. 31.....	36560	+550
Feb. 28.....	36740	+180
Mar. 31.....	36560	-180
Apr. 30.....	36380	-180
May 31.....	36920	+540
June 30.....	36380	-540
July 31.....	34950	-1430
Aug. 31.....	33550	-1400
Sept. 30.....	32530	-1020
WTR YR 1977.....	--	-5160



## 11051500 SANTA ANA RIVER NEAR MENTONE, CA

LOCATION.--Lat 34°06'30", long 117°05'59", in NE¼SW¼ sec.4, T.1 S., R.2 W., San Bernardino County, on right bank at diversion near mouth of canyon, 1.6 mi (2.6 km) upstream from Mill Creek, 3.2 mi (5.1 km) north-east of Mentone, and 16 mi (26 km) downstream from Big Bear Lake.

DRAINAGE AREA.--210 mi<sup>2</sup> (544 km<sup>2</sup>), including area tributary to Baldwin Lake at head of Bear Valley.

PERIOD OF RECORD.--July 1896 to current year. Prior to October 1914, observed records not equivalent owing to Greenspot pipeline diversion between sites and exclusion of discharge from Warm Springs Canyon. Monthly discharge only for January 1910, January and February 1916 published in WSP 1315-B.

GAGE.--Three water-stage recorders. Main gage on right bank of river, canal gage on powerhouse diversion, and since 1970 supplementary gage on left bank of river. Altitude of main and supplementary gages is 1,950 ft (594 m), from topographic map. Prior to Sept. 2, 1917, nonrecording gages at several sites within 1.5 mi (2.4 km) upstream at various datums. Sept. 3, 1917, to May 27, 1969, water-stage recorder at site 0.2 mi (0.3 km) upstream at different datum. Canal gage at different datum.

REMARKS.--Records fair. Flow partly regulated by Big Bear Lake (station 11049000) 16 mi (26 km) upstream. For records of combined discharge of Santa Ana River and Southern California Edison Co.'s canal below powerplant No. 2, which diverts above station, see following page. Prior to Oct. 1, 1952, and after Apr. 26, 1976, Bear Valley Mutual Water Co. pumped water into channel above canal gage. See schematic diagram of Santa Ana River basin.

COOPERATION.--Three discharge measurements on Southern California Edison Co.'s canal below powerplant No. 2 were furnished by that agency, in connection with a Federal Power Commission project.

AVERAGE DISCHARGE.--River only: 63 years (water years 1915-77), 31.8 ft<sup>3</sup>/s (0.901 m<sup>3</sup>/s), 23,040 acre-ft/yr (28.4 hm<sup>3</sup>/yr).

Combined river and canal: 81 years, 79.6 ft<sup>3</sup>/s (2.25 m<sup>3</sup>/s), 57,670 acre-ft/yr (71.1 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--River only: Maximum discharge, 52,300 ft<sup>3</sup>/s (1,480 m<sup>3</sup>/s) Mar. 2, 1938, gage height, 14.3 ft (4.359 m), site and datum then in use, on basis of slope-area measurement of maximum flow; no flow at times in some years.

Combined river and canal: Maximum discharge, 52,300 ft<sup>3</sup>/s (1,480 m<sup>3</sup>/s) Mar. 2, 1938; minimum daily, 7.4 ft<sup>3</sup>/s (0.21 m<sup>3</sup>/s) Sept. 21, 1971.

EXTREMES OUTSIDE PERIOD OF RECORD.--Combined river and canal: Flood of Feb. 23, 1891, 53,700 ft<sup>3</sup>/s (1,520 m<sup>3</sup>/s), from notes furnished by F. C. Finkle, consulting engineer, Los Angeles.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 150 ft<sup>3</sup>/s (4.25 m<sup>3</sup>/s) and maximum (\*):

Date	Time	River Discharge		Gage height		Combined River and Diversion Discharge	
		(ft <sup>3</sup> /s)	(m <sup>3</sup> /s)	(ft)	(m)	(ft <sup>3</sup> /s)	(m <sup>3</sup> /s)
Jan. 3	0500	260	7.36	4.45	1.356	276	7.82
Feb. 24	0800	247	7.00	3.30	1.006	275	7.79
May 8	2200	*500	14.2	4.50	1.372	*504	14.3

River only: Minimum daily discharge, no flow many days.

Combined river and diversion: Minimum daily discharge, 21 ft<sup>3</sup>/s (0.59 m<sup>3</sup>/s) Aug. 28, Sept. 5-6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.0	.68	0	.10	.38	1.4	.70	.06	1.8	.38	0	
2	5.0	.20	0	.05	.28	1.1	.65	.12	1.7	.03	0	
3	5.0	.10	0	.78	.20	1.0	.65	.06	1.6	.01	0	
4	5.0	.10	0	.37	.17	.98	.65	.07	1.5	.01	0	
5	5.0	.10	0	.33	.17	.96	.65	.09	2.1	.01	0	
6	4.8	.15	0	.24	.17	.93	.60	.07	1.1	.01	0	
7	4.5	.30	0	.15	.10	.91	.60	.09	.89	.01	0	
8	4.2	.05	0	.12	.10	.90	.60	.65	.92	.02	0	
9	3.9	.05	0	.9.4	.10	.89	.55	169	1.0	.02	0	
10	4.4	.05	0	8.9	.20	.88	.55	76	.68	.02	0	
11	3.9	.05	0	6.8	.17	.86	.55	59	.83	.02	0	
12	3.2	.05	0	5.3	.20	.86	.50	45	.38	.02	0	
13	3.2	.05	0	3.9	.20	.84	.50	22	.20	.02	0	
14	3.9	.04	0	2.4	.20	.84	.45	7.0	.12	.02	0	
15	3.2	.04	0	3.4	.10	.82	.45	4.0	.07	.02	.03	
16	3.2	.04	0	2.6	.10	.82	.40	1.0	.05	.01	0	
17	3.7	.04	0	2.6	.10	.80	.40	4.0	.04	.01	25	
18	2.6	.04	0	2.1	.10	.80	.35	3.0	.04	0	41	
19	3.4	.04	0	1.9	.10	.80	.35	4.0	.03	0	.50	
20	5.3	.04	0	1.8	.10	.78	.30	4.0	.04	0	0	
21	4.7	.03	0	1.2	.10	.78	.25	4.0	.03	0	0	
22	7.5	.03	0	1.0	.41	.76	.20	5.0	.05	0	0	
23	2.2	.03	0	.75	105	.76	.15	4.0	.14	0	0	
24	1.2	.02	0	.68	108	.74	.10	2.0	.09	0	0	
25	.34	.02	0	.55	26	.74	.05	7.0	.14	0	0	
26	.75	.01	0	.50	7.6	.74	.05	3.0	.17	0	0	
27	.92	0	0	.45	2.8	.72	.05	2.0	.17	0	0	
28	.75	0	0	.38	1.4	.72	.05	1.0	.17	0	0	
29	.61	0	.05	.30	---	.70	.05	2.0	.17	0	0	
30	.75	0	.10	.25	---	.70	.05	3.0	.17	0	0	
31	.55	---	.16	.20	---	.70	---	2.0	---	0	0	---
TOTAL	102.67	2.35	.31	256.51	295.14	26.23	11.45	498.56	16.39	.64	66.53	0
MEAN	3.31	.078	.010	8.27	10.5	.85	.38	16.1	.55	.021	2.15	0
MAX	7.5	.68	.16	.78	108	1.4	.70	169	2.1	.38	41	0
MIN	.34	0	0	.05	.10	.70	.05	.06	.03	0	0	0
AC-FT	204	4.7	.6	509	585	52	23	989	33	1.3	132	0
CAL YR 1976	TOTAL	3230.38	MEAN	8.83	MAX	646	MIN	0	AC-FT	6410		
WTR YR 1977	TOTAL	1276.78	MEAN	3.50	MAX	169	MIN	0	AC-FT	2530		

## SANTA ANA RIVER BASIN

11051500 SANTA ANA RIVER NEAR MENTONE CA--Continued

COMBINED DISCHARGE, IN CUBIC FEET PER SECOND, OF SANTA ANA RIVER AND SOUTHERN  
CALIFORNIA EDISON CO.'S CANAL NEAR MENTONE, CA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32	30	27	26	28	31	31	29	34	26	22	23
2	31	29	27	28	27	30	31	29	35	28	22	22
3	29	27	34	87	26	29	30	29	34	28	22	22
4	28	28	36	37	26	30	30	29	33	27	24	22
5	27	28	36	47	26	30	30	29	33	27	24	21
6	27	35	36	55	26	29	30	30	32	26	24	21
7	27	38	36	45	26	29	31	30	34	26	24	24
8	28	38	36	41	26	29	31	95	37	25	24	26
9	27	37	36	34	26	29	31	173	38	24	26	28
10	27	37	32	36	25	29	31	80	36	24	26	29
11	26	36	28	36	25	27	31	63	35	24	26	29
12	25	36	28	32	25	31	30	55	34	23	23	29
13	25	25	28	30	26	33	33	52	33	23	22	26
14	28	25	28	29	28	32	34	49	33	23	22	26
15	33	24	28	28	29	31	33	48	32	23	25	26
16	34	24	27	28	31	33	32	47	32	24	30	26
17	47	25	27	28	42	31	32	46	31	26	51	27
18	54	28	37	27	42	32	32	45	31	26	56	26
19	51	27	39	28	32	33	31	45	31	24	28	24
20	42	27	39	29	28	31	31	45	31	23	24	24
21	46	26	30	32	28	28	30	46	31	22	23	23
22	51	26	28	30	71	29	30	47	30	22	24	23
23	35	26	28	32	133	29	29	48	29	27	26	22
24	31	26	27	30	139	30	29	48	29	28	24	23
25	31	26	27	30	53	34	29	47	28	27	23	25
26	32	27	28	31	35	33	31	42	28	25	22	26
27	30	26	26	30	32	33	30	41	28	23	22	27
28	30	25	26	29	30	33	29	40	28	23	21	25
29	30	26	27	29	---	33	29	39	28	23	22	24
30	30	27	31	28	---	32	29	38	28	23	24	24
31	29	---	27	28	---	31	---	35	---	23	24	---
TOTAL	1023	865	950	1060	1091	954	920	1519	956	766	800	743
MEAN	33.0	28.8	30.6	34.2	39.0	30.8	30.7	49.0	31.9	24.7	25.8	24.8
MAX	54	38	39	87	139	34	34	173	38	28	56	29
MIN	25	24	26	26	25	27	29	29	28	22	21	21
AC-FT	2030	1720	1880	2100	2160	1890	1820	3010	1900	1520	1590	1470
CAL YR 1976	TOTAL	15526	MEAN 42.4	MAX 650	MIN 20	AC-FT 30800						
WTR YR 1977	TOTAL	11647	MEAN 31.9	MAX 173	MIN 21	AC-FT 23100						

## 11051600 SANTA ANA RIVER SPREADING DIVERSION NEAR MENTONE, CA

LOCATION.--Lat 34°06'12", long 117°06'37", in SW¼NW¼NE¼ sec.8, T.1 S., R.2 W., San Bernardino County, on diversion channel 0.8 mi (1.3 km) downstream from Southern California Edison Co.'s powerhouse No. 3, and 2.4 mi (3.9 km) northeast of Mentone.

PERIOD OF RECORD.--October 1951 to September 1977 (discontinued).

GAGE.--Water-stage recorder and Parshall flume control. Altitude of gage is 1,840 ft (561 m), from topographic map.

REMARKS.--Records good. Water is diverted from Santa Ana River at diversion dam 0.8 mi (1.3 km) upstream, for spreading on debris cone downstream from mouth of Santa Ana River Canyon. Diversion began prior to 1951.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 141 ft<sup>3</sup>/s (3.99 m<sup>3</sup>/s) Mar. 16, 1973; no flow for long periods in each year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.9		0	0	15	12		0	13			
2	18		0	0	9.6	9.7		0	4.7			
3	16		0	20	5.0	8.7		0	0			
4	14		0	19	4.4	7.0		0	0			
5	7.5		0	16	6.1	6.7		0	0			
6	0		0	21	8.1	7.4		0	0			
7	0		0	26	8.6	4.7		0	0			
8	0		0	24	4.7	.46		0	0			
9	0		0	19	.92	.46		55	0			
10	0		0	16	.92	.30		56	0			
11	0		0	16	.92	.30		45	0			
12	0		0	14	.92	.30		37	0			
13	0		0	15	.67	.30		38	0			
14	0		0	9.1	.09	.30		32	0			
15	0		0	2.7	0	.30		35	0			
16	0		0	11	0	.30		39	0			
17	0		0	13	0	.09		40	0			
18	0		0	14	0	0		38	0			
19	0		0	14	0	0		38	0			
20	0		0	13	0	0		36	0			
21	0		0	12	0	0		36	0			
22	0		0	9.3	0	0		36	0			
23	0		0	12	0	0		36	0			
24	0		0	17	7.4	0		43	0			
25	0		0	16	5.5	0		36	0			
26	0		0	16	3.0	0		33	0			
27	0		.01	14	3.4	0		30	0			
28	0		.10	12	8.6	5.6		29	0			
29	0		.21	15	---	11		26	0			
30	0		.06	17	---	7.7		24	0			
31	0	---	0	16	---	4.3	---	23	---			---
TOTAL	65.4	0	.38	439.1	93.84	87.91	0	841	17.7	0	0	0
MEAN	2.11	0	.012	14.2	3.35	2.84	0	27.1	.59	0	0	0
MAX	18	0	.21	26	15	12	0	56	13	0	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	130	0	.8	871	186	174	0	1670	35	0	0	0
CAL YR 1976	TOTAL	2367.24	MEAN	6.47	MAX	83	MIN	0	AC-FT	4700		
WTR YR 1977	TOTAL	1545.33	MEAN	4.23	MAX	56	MIN	0	AC-FT	3070		

## 11054000 MILL CREEK NEAR YUCAIPA, CA

LOCATION.--Lat 34°05'27", long 117°02'12", in NW¼NE¼NE¼ sec.13, T.1 S., R.2 W., San Bernardino County, on left bank 50 ft (15 m) downstream from bridge on State Highway 38, 3.9 mi (6.3 km) north of Yucaipa, and 5.3 mi (8.5 km) upstream from mouth.

DRAINAGE AREA.--42.4 mi<sup>2</sup> (110 km<sup>2</sup>).

PERIOD OF RECORD.--January 1919 to September 1938, October 1947 to current year. Monthly figures only for April and May 1923, published in WSP 1315-B. Prior to October 1954, published as "near Craftonville."

GAGE.--Water-stage recorder on creek; water-stage recorder and sharp-crested weir on power canal No. 1; water-stage recorder and Parshall flume on power canals Nos. 2 and 3. Datum of creek gage is 2,916.36 ft (888.907 m) above mean sea level (Southern California Edison Co. bench mark). Canals are all at different datums. See WSP 1735 for history of changes prior to Mar. 2, 1938.

REMARKS.--Records fair. No regulation above station. Mill Creek power canals Nos. 1, 2, and 3 divert from points 100 ft (30 m), 3 mi (5 km), and 6 mi (10 km) above station, respectively. Combined flow of Mill Creek and Mill Creek power canals Nos. 1, 2, and 3 is given on following page. See schematic diagram of Santa Ana River basin.

COOPERATION.--Water-stage recorder graph for Mill Creek power canals Nos. 2 and 3 furnished by Southern California Edison Co., in connection with a Federal Power Commission project.

AVERAGE DISCHARGE.--Creek only: 49 years (water years 1920-38, 1948-77), 12.6 ft<sup>3</sup>/s (0.357 m<sup>3</sup>/s), 9,130 acre-ft/yr (11.3 hm<sup>3</sup>/yr).

Combined creek and canals: 49 years, 33.2 ft<sup>3</sup>/s (0.940 m<sup>3</sup>/s), 24,050 acre-ft/yr (29.7 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Creek only: Maximum discharge, 35,400 ft<sup>3</sup>/s (1,000 m<sup>3</sup>/s) Jan. 25, 1969, gage height, 16.8 ft (5.121 m), from floodmark, from rating curve extended above 1,100 ft<sup>3</sup>/s (31.2 m<sup>3</sup>/s) on basis of two field estimates at gage height 14.5 ft (4.420 m) and slope-area measurement of maximum flow; no flow at times in some years.  
Combined creek and canals: Maximum discharge, 35,400 ft<sup>3</sup>/s (1,000 m<sup>3</sup>/s) Jan. 25, 1969; minimum daily, 2.7 ft<sup>3</sup>/s (0.077 m<sup>3</sup>/s) Feb. 23, 1949.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 100 ft<sup>3</sup>/s (2.83 m<sup>3</sup>/s) and maximum (\*):

Date	Time	Creek Discharge		Gage height		Combined Creek and Canals Discharge	
		(ft <sup>3</sup> /s)	(m <sup>3</sup> /s)	(ft)	(m)	(ft <sup>3</sup> /s)	(m <sup>3</sup> /s)
Jan. 3	0300	*111	3.14	8.32	2.536	*130	3.68
May 8						100	2.83
Aug. 22	1730	100	2.83	8.45	2.576	103	2.92

Creek only: Minimum daily discharge, 0.02 ft<sup>3</sup>/s (0.001 m<sup>3</sup>/s) Nov. 28 to Dec. 21, Dec. 24-29.

Combined creek and canals: Minimum daily discharge, 5.8 ft<sup>3</sup>/s (0.16 m<sup>3</sup>/s) Aug. 18.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.7	.08	.02	3.5	.07	.11	.11	.06	.05	.11	.04	2.1
2	2.7	.38	.02	3.5	.07	.11	.11	.06	.05	.10	.04	2.0
3	2.5	.05	.02	2.4	.10	.11	.11	.06	.49	.10	.04	1.9
4	2.4	.05	.02	4.9	.10	.11	.11	.06	.10	.10	.04	1.8
5	2.4	.05	.02	4.5	.12	.11	.11	.06	.10	.10	.04	1.8
6	2.4	.05	.02	4.0	.15	.11	.11	.06	.10	.09	.04	1.7
7	2.4	.05	.02	3.5	.15	.11	.11	.06	.10	.08	.04	1.6
8	2.4	.05	.02	3.0	.20	.11	.11	8.9	.10	.07	.04	1.6
9	2.4	.05	.02	2.8	.20	.11	.11	27	.10	.07	.04	1.5
10	2.4	.05	.02	2.4	.20	.11	.11	8.0	.10	.06	.04	1.5
11	2.4	.05	.02	2.0	.20	.11	.11	4.0	.10	.06	.04	1.4
12	2.4	.05	.02	2.4	.20	.11	.11	3.5	.10	.06	.04	1.4
13	2.4	1.0	.02	2.4	.20	.11	.11	4.0	.10	.06	.04	1.3
14	2.4	1.0	.02	.97	.20	.11	.11	3.5	.10	.06	.04	1.3
15	2.4	.05	.02	.07	.20	.08	.11	3.0	.10	.07	.04	1.3
16	2.4	.05	.02	.07	.30	.09	.11	8.1	.10	.08	.04	1.2
17	2.4	.05	.02	.07	.33	.10	.11	2.8	.10	.08	29	1.2
18	2.4	.05	.02	.07	.37	.10	.11	2.5	.10	.08	2.1	1.2
19	2.4	.05	.02	.07	.37	.10	.06	2.2	.10	.08	.40	1.1
20	2.4	.05	.02	1.3	.37	.10	.06	2.2	.10	.08	.20	1.1
21	1.4	.05	.02	2.2	.37	.10	.06	2.1	.10	.07	.10	1.1
22	2.2	.04	1.3	.67	.37	.10	.06	.30	.10	.07	9.1	1.1
23	2.2	.04	1.3	.07	.37	.10	.06	.20	.10	.07	7.0	1.0
24	2.2	.04	.02	.07	.25	.10	.06	6.7	.10	.07	6.5	1.0
25	2.4	.03	.02	.07	.03	.10	.06	4.2	.10	.07	6.0	1.0
26	2.4	.03	.02	.07	.05	.10	.06	.90	.10	.06	5.0	.98
27	2.4	.03	.02	.07	.08	.10	.06	.05	.10	.04	4.0	.96
28	1.5	.02	.02	.07	.11	.10	.06	.05	.10	.04	3.5	.94
29	.10	.02	.02	.07	---	.09	.06	.05	.10	.04	3.0	.92
30	.10	.02	3.4	.07	---	.11	.06	.05	.10	.04	2.5	.90
31	.10	---	4.0	.07	---	.11	---	.05	---	.04	2.2	---
TOTAL	65.70	3.58	10.54	69.02	5.73	3.22	2.70	94.77	3.29	2.20	81.24	39.90
MEAN	2.12	.12	.34	2.23	.20	.10	.090	3.06	.11	.071	2.62	1.33
MAX	2.7	1.0	4.0	2.4	.37	.11	.11	27	.49	.11	29	2.1
MIN	.10	.02	.02	.07	.03	.08	.06	.05	.05	.04	.04	.90
AC-FT	130	7.1	21	137	11	6.4	5.4	188	6.5	4.4	161	79
CAL YR 1976 TOTAL	1820.42			MEAN 4.97	MAX 793	MIN .02	AC-FT 3610					
WTR YR 1977 TOTAL	381.89			MEAN 1.05	MAX 29	MIN .02	AC-FT 757					

## 11054000 MILL CREEK NEAR YUCAIPA, CA--Continued

COMBINED DISCHARGE, IN CUBIC FEET PER SECOND, OF MILL CREEK AND MILL CREEK POWER  
CANALS NOS. 1, 2, AND 3 NEAR YUCAIPA, CA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	20	19	18	17	16	14	18	24	22	17	22
2	22	20	19	21	17	15	15	18	23	23	16	21
3	22	20	19	31	16	16	15	18	23	23	16	21
4	19	19	19	19	16	15	15	18	25	22	16	21
5	20	19	19	19	16	15	16	19	25	22	16	21
6	20	19	19	19	16	15	16	19	26	22	16	21
7	20	19	18	18	16	16	16	19	24	22	16	20
8	20	20	17	16	15	16	16	32	24	21	16	20
9	20	19	17	16	15	16	16	47	25	21	16	19
10	20	19	17	15	15	16	17	27	25	21	16	20
11	19	19	17	15	15	16	16	22	24	21	16	19
12	19	20	17	15	15	16	16	21	24	20	16	19
13	19	21	17	16	15	16	18	21	25	20	16	19
14	20	22	17	17	16	16	18	21	24	20	16	19
15	20	21	17	16	17	16	18	22	24	20	17	19
16	20	20	17	16	17	17	18	29	23	20	24	19
17	20	19	17	16	16	17	18	24	23	19	41	19
18	21	19	16	16	16	17	18	24	22	18	5.8	19
19	20	19	17	16	16	17	18	23	22	18	11	19
20	20	19	16	14	16	16	18	23	22	18	16	19
21	19	19	16	13	16	16	18	24	22	18	15	19
22	21	19	17	16	18	16	17	27	22	20	21	18
23	19	19	16	17	18	16	17	25	21	19	11	18
24	19	19	16	17	18	16	17	33	22	19	11	18
25	20	19	16	16	17	17	17	27	23	19	16	19
26	21	19	16	17	18	16	17	25	23	19	22	18
27	19	20	16	16	18	17	18	25	22	18	20	18
28	21	20	18	16	17	16	19	26	22	16	19	18
29	20	19	18	16	---	15	19	25	23	17	19	18
30	20	19	20	16	---	15	19	25	23	17	25	18
31	20	---	17	16	---	16	---	25	---	17	22	---
TOTAL	622	585	537	525	458	496	510	752	700	612	540.8	578
MEAN	20.1	19.5	17.3	16.9	16.4	16.0	17.0	24.3	23.3	19.7	17.4	19.3
MAX	22	22	20	31	18	17	19	47	26	23	41	22
MIN	19	19	16	13	15	15	14	18	21	16	5.8	18
AC-FT	1230	1160	1070	1040	908	984	1010	1490	1390	1210	1070	1150
CAL YR 1976	TOTAL	7810.9	MEAN 21.3	MAX 797	MIN 7.3	AC-FT 15490						
WTR YR 1977	TOTAL	6915.8	MEAN 18.9	MAX 47	MIN 5.8	AC-FT 13720						

## 11055500 PLUNGE CREEK NEAR EAST HIGHLANDS, CA

LOCATION.--Lat 34°07'06", long 117°08'27", in SW¼NE¼ sec.1, T.1 S., R.3 W., San Bernardino County, on left bank at mouth of canyon at crossing of North Fork ditch siphon, 1.8 mi (2.9 km) northeast of East Highlands.

DRAINAGE AREA.--16.9 mi<sup>2</sup> (43.8 km<sup>2</sup>).

PERIOD OF RECORD.--January 1919 to current year; combined records of creek and diversions, March 1951 to current year.

GAGE.--Water-stage recorder on creek. Since March 1951 water-stage recorder and weir on upper diversion; water-stage recorder and concrete-lined canal on middle diversion; crest-stage gage and sharp-crested weir on lower diversion. Altitude of creek gage is 1,590 ft (485 m), from topographic map. Prior to Oct. 1, 1969, creek gage at datum 4.00 ft (1.219 m) higher. Diversions are all at different datums.

REMARKS.--Records fair. No regulation above station. Diversion from Alder Creek to Upper Plunge Creek area was active 1904-67. Diversions for irrigation are made at sites 0.5 mi (0.8 km), 1.0 mi (1.6 km), and 2.5 mi (4.0 km) above station. Water has been diverted above station for irrigation during entire period of record. Combined discharge of Plunge Creek and upper, middle, and lower diversions is given on following page. No flow in lower diversion since May 29, 1966. See schematic diagram of Santa Ana River basin.

AVERAGE DISCHARGE.--Creek only: 58 years, 6.00 ft<sup>3</sup>/s (0.170 m<sup>3</sup>/s), 4,350 acre-ft/yr (5.36 hm<sup>3</sup>/yr).  
Combined creek and diversions: 26 years, 7.26 ft<sup>3</sup>/s (0.206 m<sup>3</sup>/s), 5,260 acre-ft/yr (6.49 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Creek only: Maximum discharge, 5,340 ft<sup>3</sup>/s (151 m<sup>3</sup>/s) Mar. 2, 1938, on basis of slope-area measurement of maximum flow; no flow for part of most years.  
Combined creek and diversions: Maximum discharge, 4,770 ft<sup>3</sup>/s (135 m<sup>3</sup>/s) Dec. 6, 1966; no flow Nov. 12, 1964, Sept. 29, 1965.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 130 ft<sup>3</sup>/s (3.68 m<sup>3</sup>/s) and maximum(\*):

Date	Time	Creek Discharge		Gage height		Combined Creek and Diversions Discharge	
		(ft <sup>3</sup> /s)	(m <sup>3</sup> /s)	(ft)	(m)	(ft <sup>3</sup> /s)	(m <sup>3</sup> /s)
Oct. 22	1930	422	12.0	4.13	1.259	422	12.0
Jan. 3	0430	*450	12.7	4.20	1.280	*450	12.7
May 8	2030	215	6.09	3.40	1.036	215	6.09

Creek only: Minimum daily discharge, no flow many days.

Combined creek and diversions: Minimum daily discharge, 0.38 ft<sup>3</sup>/s (0.011 m<sup>3</sup>/s) July 22.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.3	1.0	1.0	2.4	1.4	4.3	1.8	.04	3.6	.06	0	0
2	4.5	.95	.95	2.2	1.4	1.6	1.6	.04	1.1	.14	0	0
3	2.0	.95	.95	68	1.2	2.6	2.2	.01	.96	.10	0	0
4	1.5	.95	1.0	4.1	1.3	2.6	2.5	.02	.90	.08	0	0
5	1.0	.95	.95	6.4	1.4	3.6	2.0	.03	.85	.07	0	0
6	.95	1.1	.88	9.9	1.4	4.7	1.8	.02	.82	.06	0	0
7	.88	1.2	.81	6.0	1.3	5.5	1.4	.03	.78	.06	0	0
8	.81	1.0	.81	3.4	1.0	8.3	1.3	44	.76	.05	0	0
9	.81	1.2	.81	2.8	1.6	5.5	1.1	55	.73	.05	0	0
10	.88	1.1	.88	2.4	3.1	3.6	1.5	19	.71	.06	0	0
11	.88	1.0	1.6	2.8	2.5	1.2	1.2	6.7	.69	.15	0	0
12	.88	2.1	1.2	4.7	2.2	.52	.88	11	.70	.22	0	0
13	.74	2.1	1.1	4.1	2.1	.43	.47	14	.78	.16	0	0
14	.81	1.8	1.0	4.1	2.1	.62	.43	16	.85	.20	0	0
15	.88	1.6	1.2	4.1	1.9	.74	.27	13	.43	.62	.01	.01
16	.88	1.5	1.3	3.6	1.9	3.9	.21	11	.39	.57	.35	.01
17	.74	1.3	.88	2.8	2.8	3.6	.24	8.0	.27	.35	1.0	.01
18	.74	1.1	.95	2.2	11	.81	.31	6.7	.31	.16	.39	.01
19	.81	1.1	1.0	2.1	15	1.4	.21	6.0	.31	.06	.01	.01
20	.88	1.3	1.1	1.9	15	2.8	.06	6.0	.35	.04	0	0
21	1.0	1.5	1.0	1.8	15	1.6	.06	5.3	.24	.04	0	.01
22	23	1.2	1.2	1.9	20	.47	.05	4.7	.22	.04	0	0
23	5.3	1.1	1.0	1.8	18	.24	.04	6.4	.43	.03	0	0
24	2.8	1.2	1.0	1.6	25	.27	.03	14	.12	.03	0	0
25	2.0	1.4	1.0	1.6	23	2.4	.03	8.0	.07	.02	0	0
26	1.3	1.4	1.0	1.6	19	.68	.02	6.4	.10	.03	0	0
27	1.0	1.2	1.0	1.6	15	2.9	.02	5.6	.10	0	0	0
28	1.1	1.3	1.0	1.4	8.3	2.5	.02	5.1	.06	.01	.01	0
29	1.1	1.5	1.0	1.6	---	2.1	.02	4.6	.06	0	.01	0
30	1.1	1.1	4.0	1.4	---	3.4	.02	4.2	.07	0	0	0
31	1.0	---	3.2	1.2	---	2.4	---	3.8	---	0	0	---
TOTAL	63.57	38.20	36.77	157.5	214.9	77.28	21.79	284.69	17.76	3.46	1.78	.06
MEAN	2.05	1.27	1.19	5.08	7.68	2.49	.73	9.18	.59	.11	.057	.002
MAX	23	2.1	4.0	68	25	8.3	2.5	55	3.6	.62	1.0	.01
MIN	.74	.95	.81	1.2	1.0	.24	.02	.01	.06	0	0	0
AC-FT	126	76	73	312	426	153	43	565	35	6.9	3.5	.1

CAL YR 1976 TOTAL 1134.97 MEAN 3.10 MAX 115 MIN 0 AC-FT 2250  
WTR YR 1977 TOTAL 917.76 MEAN 2.51 MAX 68 MIN 0 AC-FT 1820

COMBINED DISCHARGE, IN CUBIC FEET PER SECOND, OF PLUNGE CREEK AND  
DIVERSTIONS NEAR EAST HIGHLANDS, CA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.6	1.8	1.9	2.4	1.4	5.8	2.5	1.7	3.6	1.4	.58	.72
2	4.6	1.8	1.8	2.2	1.4	3.2	2.3	1.7	2.5	1.4	.51	.69
3	2.0	1.8	1.7	68	1.2	4.3	2.9	1.8	3.9	1.4	.48	.63
4	1.8	1.8	1.8	4.1	1.3	4.1	3.2	1.9	3.2	1.5	.49	.60
5	1.5	1.8	1.9	6.4	1.4	5.0	2.8	2.0	3.0	1.4	.53	.59
6	1.5	1.9	1.8	9.9	1.4	6.1	3.1	2.0	3.0	1.3	.51	.59
7	1.4	2.0	1.7	6.0	1.3	7.1	2.3	2.0	3.3	1.2	.52	.57
8	1.4	1.8	1.7	3.4	1.3	10	2.3	46	3.2	1.2	.51	.56
9	1.5	2.0	1.7	2.8	2.3	7.3	2.4	55	3.2	.95	.52	.54
10	1.5	1.9	1.4	2.4	4.2	5.4	2.8	19	3.0	.95	.51	.57
11	1.5	1.8	2.1	2.8	3.8	3.0	2.5	6.7	3.0	1.1	.49	.62
12	1.5	2.9	1.8	4.7	3.3	2.2	2.2	11	2.9	1.2	.47	.63
13	1.4	2.9	1.8	4.1	3.3	2.1	2.1	14	2.9	1.1	.50	.62
14	1.4	2.6	1.8	4.1	3.2	2.3	2.3	16	3.2	1.0	.52	.62
15	1.5	2.4	1.8	4.1	2.8	2.5	2.4	13	2.9	1.1	.59	.66
16	1.5	2.3	1.9	3.6	2.9	5.7	2.1	11	2.7	1.0	1.7	.68
17	1.4	2.1	1.6	2.8	3.8	5.2	2.1	8.0	2.5	.78	2.5	.72
18	1.4	1.9	1.7	2.2	12	2.8	2.3	6.7	2.5	.56	1.3	.72
19	1.4	1.9	1.7	2.1	16	3.4	2.2	6.0	2.5	.47	1.2	.70
20	1.3	2.1	1.8	1.9	16	4.9	2.1	6.0	2.6	.48	.96	.69
21	1.5	2.3	1.6	1.8	16	3.5	2.1	5.3	2.3	.44	.87	.70
22	23	2.0	1.7	1.9	21	2.4	2.0	4.7	2.1	.38	.96	.71
23	5.3	1.8	1.6	1.8	19	2.0	1.9	6.4	2.2	.44	1.0	.71
24	3.3	2.0	1.6	1.6	27	2.1	1.8	14	1.8	.50	.99	.66
25	2.8	2.0	1.7	1.6	24	4.4	1.7	8.0	1.7	.46	.88	.66
26	2.0	2.1	1.5	1.6	21	2.4	1.8	6.4	1.6	.42	.88	.70
27	1.6	1.9	1.3	1.6	17	3.8	1.9	5.6	1.5	.53	.92	.71
28	1.6	1.8	1.1	1.4	10	3.5	2.0	5.1	1.4	.60	.82	.65
29	1.5	2.2	1.5	1.6	---	3.1	1.9	4.6	1.4	.59	.78	.65
30	1.7	2.1	4.3	1.4	---	4.2	1.8	4.2	1.4	.58	.77	.70
31	1.9	---	3.2	1.2	---	3.0	---	3.8	---	.59	.75	---
TOTAL	79.3	61.7	56.5	157.5	239.3	126.8	67.8	299.6	77.0	27.02	25.01	19.57
MEAN	2.56	2.06	1.82	5.08	8.55	4.09	2.26	9.66	2.57	.87	.81	.65
MAX	23	2.9	4.3	68	27	10	3.2	55	3.9	1.5	2.5	.72
MIN	1.3	1.8	1.1	1.2	1.2	2.0	1.7	1.7	1.4	.38	.47	.54
AC-FT	157	122	112	312	475	252	134	594	153	54	50	39
CAL YR 1976	TOTAL	1440.18	MEAN	3.93	MAX	115	MIN	.46	AC-FT	2860		
WTR YR 1977	TOTAL	1237.10	MEAN	3.39	MAX	68	MIN	.38	AC-FT	2450		

## SANTA ANA RIVER BASIN

11055800 CITY CREEK NEAR HIGHLAND, CA

LOCATION.--Lat 34°08'38", long 117°11'16", in SE¼SW¼NW¼ sec.27, T.1 N., R.3 W., San Bernardino County, on right bank 0.6 mi (1.0 km) upstream from Highland Avenue, and 1.5 mi (2.4 km) northeast of Highland.

DRAINAGE AREA.--19.6 mi<sup>2</sup> (50.8 km<sup>2</sup>).

PERIOD OF RECORD.--October 1919 to current year; combined records of creek and canal, June 1924 to current year.

GAGE.--Water-stage recorder on creek; water-stage recorder on canal. Altitude of creek gage is 1,580 ft (482 m), from topographic map. Prior to Mar. 1, 1939, at site 0.2 mi (0.3 km) downstream at different datum. Canal gage at different datum.

REMARKS.--Records fair. No regulation above station. City Creek Water Co.'s canal has diverted from point 0.5 mi (0.8 km) above station for irrigation throughout period of record. See schematic diagram of Santa Ana River basin. Combined discharge of City Creek and canal is given on following page.

AVERAGE DISCHARGE.--Creek only: 58 years, 8.46 ft<sup>3</sup>/s (0.240 m<sup>3</sup>/s), 6,130 acre-ft/yr (7.56 hm<sup>3</sup>/yr).  
Combined creek and canal: 53 years, 10.1 ft<sup>3</sup>/s (0.286 m<sup>3</sup>/s), 7,320 acre-ft/yr (9.03 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Creek only: Maximum discharge, 7,000 ft<sup>3</sup>/s (198 m<sup>3</sup>/s) Feb. 25, 1969, gage height, 9.39 ft (2.862 m), from rating curve extended above 580 ft<sup>3</sup>/s (16.4 m<sup>3</sup>/s) on basis of slope-area measurement at gage height 8.83 ft (2.691 m); no flow for several months in some years.  
Combined creek and canal: Maximum discharge, 7,000 ft<sup>3</sup>/s (198 m<sup>3</sup>/s) Feb. 25, 1969; no flow at times in some years.

EXTREMES FOR CURRENT YEAR.--Creek only: Maximum discharge, 860 ft<sup>3</sup>/s (24.4 m<sup>3</sup>/s) Oct. 22 (1930 hrs), gage height, 7.60 ft (2.316 m), on basis of slope-conveyance estimate of peak flow, no other peak above base of 150 ft<sup>3</sup>/s (4.25 m<sup>3</sup>/s); minimum daily, 0.04 ft<sup>3</sup>/s (0.001 m<sup>3</sup>/s) July 25, 26;  
Combined creek and canal: Maximum discharge, 860 ft<sup>3</sup>/s (24.4 m<sup>3</sup>/s) Oct. 22 (1930 hrs), no other peak above base of 150 ft<sup>3</sup>/s (4.25 m<sup>3</sup>/s); minimum daily, 0.13 ft<sup>3</sup>/s (0.004 m<sup>3</sup>/s) July 28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.5	2.1	1.7	5.8	.09	3.0	5.4	.29	3.8	.25	.12	.45
2	5.8	2.1	1.7	4.7	.21	3.3	4.7	.21	2.5	.25	.10	.39
3	3.5	2.1	1.7	32	.21	3.3	4.7	.12	2.3	.25	.10	.39
4	3.0	2.1	1.9	5.0	.29	3.8	4.4	.10	2.1	.21	.12	.34
5	2.5	2.1	2.1	4.0	.29	4.4	4.1	.10	1.9	.21	.15	.29
6	2.1	2.0	2.1	12	.34	4.1	4.1	.15	1.9	.21	.10	.21
7	1.9	2.0	2.1	8.0	.34	2.5	3.8	.15	1.9	.18	.07	.21
8	1.7	2.0	2.3	7.0	.25	1.5	3.5	23	1.7	.15	.07	.21
9	1.7	2.0	2.1	6.5	1.4	1.4	3.5	50	2.1	.15	.12	.18
10	1.7	2.0	2.1	6.2	1.4	1.2	3.5	26	2.1	.12	.15	.18
11	1.4	6.0	2.1	6.0	.52	1.1	3.3	15	1.9	.12	.15	.18
12	1.4	3.2	2.3	5.7	.34	1.0	3.0	13	1.4	.10	.15	.29
13	1.4	2.7	1.9	5.3	.34	1.0	2.8	13	1.5	.09	.15	.29
14	1.4	2.5	1.5	4.7	.77	1.0	3.0	11	1.4	.09	.12	.34
15	1.1	2.4	1.7	4.4	.59	2.3	2.5	11	1.2	.07	.10	.39
16	.88	2.3	1.8	4.1	.29	5.8	1.9	11	1.1	.07	.25	.39
17	.59	2.3	1.9	4.1	.34	5.4	1.4	9.7	.88	.06	3.5	.52
18	.88	2.3	1.9	4.1	.88	5.1	1.4	7.5	1.0	.07	2.5	.52
19	1.3	2.5	1.5	4.4	.68	4.4	1.2	6.6	1.1	.07	.88	.45
20	1.7	2.3	1.9	4.4	.34	4.4	1.1	5.8	1.2	.09	.52	.45
21	2.1	2.3	1.7	4.4	1.4	4.1	1.0	4.7	1.1	.06	.45	.39
22	42	2.5	1.9	4.1	5.8	3.8	1.0	4.1	1.0	.05	.52	.34
23	6.2	2.5	1.9	4.1	3.8	4.1	1.2	5.4	1.0	.07	.68	.39
24	3.4	2.3	1.9	3.3	4.1	4.4	1.4	15	.88	.06	.59	.39
25	2.9	2.5	1.9	1.2	3.8	8.5	1.4	11	1.1	.04	.59	.29
26	2.6	2.5	1.9	1.2	3.3	6.6	1.4	8.5	1.1	.04	.68	.34
27	2.5	2.3	1.7	.77	3.0	6.6	1.5	7.1	1.0	.07	.68	.59
28	2.4	2.5	1.7	.25	3.0	6.6	1.9	6.6	.39	.09	.68	.52
29	2.3	2.3	1.5	.25	---	5.1	.88	6.2	.34	.09	.52	.39
30	2.2	1.9	9.1	.10	---	5.4	.34	5.8	.25	.09	.45	.52
31	2.2	---	11	.09	---	5.4	---	5.1	---	.10	.52	---
TOTAL	110.25	72.6	74.5	158.16	38.11	120.6	75.32	283.22	43.14	3.57	15.78	10.83
MEAN	3.56	2.42	2.40	5.10	1.36	3.89	2.51	9.14	1.44	.12	.51	.36
MAX	42	6.0	11	32	5.8	8.5	5.4	50	3.8	.25	3.5	.59
MIN	.59	1.9	1.5	.09	.09	1.0	.34	.10	.25	.04	.07	.18
AC-FT	219	144	148	314	76	239	149	562	86	7.1	31	21
CAL YR 1976	TOTAL	1171.90	MEAN	3.20	MAX	91	MIN	.06	AC-FT	2320		
WTR YR 1977	TOTAL	1006.08	MEAN	2.76	MAX	50	MIN	.04	AC-FT	2000		



COMBINED DISCHARGE, IN CUBIC FEET PER SECOND, OF CITY CREEK AND CITY CREEK  
WATER CO.'S CANAL NEAR HIGHLAND, CA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.5	2.1	2.1	5.8	2.4	3.0	5.4	2.7	4.5	1.4	.17	.45
2	5.8	2.1	1.9	4.7	2.6	3.3	4.7	2.5	4.2	1.5	.16	.39
3	3.5	2.1	1.7	32	2.6	3.3	4.7	2.4	4.0	1.5	.14	.39
4	3.0	2.1	1.9	5.0	2.7	3.8	4.4	2.6	3.8	1.4	.16	.34
5	2.5	2.1	2.1	4.0	2.7	4.4	4.1	2.8	3.6	1.4	.19	.29
6	2.1	2.0	2.1	12	2.7	4.1	4.1	3.1	3.7	1.2	.15	.21
7	1.9	2.0	2.1	8.0	2.7	3.7	3.8	3.0	3.6	1.1	.16	.21
8	1.7	2.0	2.3	7.0	2.8	3.5	3.5	27	3.4	.98	.16	.21
9	1.7	2.0	2.1	6.5	2.8	3.5	3.5	51	4.1	.91	.22	.18
10	1.7	2.0	2.1	6.2	3.9	3.4	3.5	26	4.0	.85	.30	.18
11	1.4	6.0	2.1	6.0	3.7	3.3	3.3	15	3.6	.83	.40	.18
12	1.4	3.2	2.3	5.7	2.5	3.3	3.0	13	3.1	.81	.44	.29
13	1.4	2.7	2.1	5.3	2.5	3.5	2.8	13	2.9	.79	.44	.29
14	1.4	2.5	1.9	4.7	2.7	3.5	3.0	11	3.0	.74	.40	.34
15	1.5	2.4	2.0	4.4	2.7	3.8	2.9	11	2.8	.62	.33	.39
16	1.5	2.3	2.1	4.1	2.4	5.8	2.9	11	2.6	.54	.50	.39
17	1.5	2.3	2.2	4.1	2.4	5.4	2.4	9.7	2.3	.46	3.5	.52
18	1.6	2.3	2.2	4.1	2.8	5.1	2.6	7.5	2.3	.45	2.5	.52
19	1.6	2.5	1.8	4.4	2.7	4.4	2.4	6.6	2.4	.47	.88	.45
20	1.7	2.3	2.1	4.4	2.2	4.4	2.5	5.8	2.5	.56	.52	.45
21	2.1	2.3	1.9	4.4	2.7	4.1	2.4	4.7	2.4	.50	.45	.39
22	42	2.5	2.1	4.1	7.0	3.8	2.2	4.1	2.2	.35	.52	.34
23	6.2	2.5	2.1	4.1	3.8	4.1	2.0	5.4	2.1	.30	.68	.39
24	3.4	2.3	2.2	3.8	4.1	4.4	2.2	15	1.9	.32	.59	.39
25	2.9	2.5	2.2	2.6	3.8	8.5	2.2	11	1.6	.28	.59	.29
26	2.6	2.5	2.2	3.0	3.3	6.6	2.3	8.5	1.6	.21	.68	.34
27	2.5	2.3	2.0	2.6	3.0	6.6	2.5	7.1	1.7	.16	.68	.59
28	2.4	2.5	2.0	2.4	3.0	6.6	3.0	6.6	1.7	.13	.68	.52
29	2.3	2.3	2.1	2.6	---	5.1	2.7	6.2	1.6	.14	.52	.39
30	2.2	2.2	9.4	2.4	---	5.4	2.6	5.8	1.5	.14	.45	.52
31	2.2	---	11	2.2	---	5.4	---	5.1	---	.15	.52	---
TOTAL	113.2	72.9	80.4	172.6	85.2	139.1	93.6	306.2	84.7	21.19	18.08	10.83
MEAN	3.65	2.43	2.59	5.57	3.04	4.49	3.12	9.88	2.82	.68	.58	.36
MAX	42	6.0	11	32	7.0	8.5	5.4	51	4.5	1.5	3.5	.59
MIN	1.4	2.0	1.7	2.2	2.2	3.0	2.0	2.4	1.5	.13	.14	.18
AC-FT	225	145	159	342	169	276	186	607	168	42	36	21
CAL YR 1976	TOTAL	1312.49	MEAN	3.59	MAX	51	MIN	.11	AC-FT	2600		
WTR YR 1977	TOTAL	1198.00	MEAN	3.28	MAX	51	MIN	.13	AC-FT	2380		

## SANTA ANA RIVER BASIN

11056200 SANTA ANA RIVER AT WATERMAN AVENUE, AT SAN BERNARDINO, CA

LOCATION.--Lat 34°04'14", long 117°16'41", in San Bernardino Grant, San Bernardino County on downstream end of fifth pier from left bank of southbound Waterman Avenue bridge, 0.1 mi (0.16 km) upstream from San Timoteo Creek, and 2.7 mi (4.3 km) southeast of San Bernardino.

DRAINAGE AREA.--359 mi<sup>2</sup> (917 km<sup>2</sup>).

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1954 to December 1961, January 1964 to September 1970, October 1976 to September 1977. Prior to January 1964, published as "near San Bernardino". Records, except for extremes for October 1928 to September 1937 at site 1.6 miles (2.57 km) upstream, not equivalent as a result of discharge from Mission Ditch.

GAGE.--Water-stage recorder. Altitude of gage is 995 ft (303.3 m) from topographic map. Prior to Jan. 21, 1964, at different datum.

REMARKS.--Records poor. Flow partly regulated by Big Bear Lake (station 11049000). Natural flow of stream affected by ground-water withdrawals and diversions for domestic use and irrigation above station. See schematic diagram of Santa Ana River basin.

AVERAGE DISCHARGE.--14 years (water years 1955-61, 1965-70, 1977), 26.2 ft<sup>3</sup>/s (0.742 m<sup>3</sup>/s), 18,980 acre-ft/yr (23.4 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 20,000 ft<sup>3</sup>/s (566 m<sup>3</sup>/s), estimated, Jan. 25, 1969, gage height, 8.5 ft (2.59 m); no flow for most of each year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge, 75,700 ft<sup>3</sup>/s (2,140 m<sup>3</sup>/s) Mar. 2, 1938, from combined discharge of Santa Ana River near Mentone, Mill Creek nr Yucaipa, and Plunge Creek near East Highlands.

EXTREMES FOR CURRENT YEAR.--Peak discharges above revised base of 1,000 ft<sup>3</sup>/s (28.3 m<sup>3</sup>/s) and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)
Oct. 22	2000	*1800 51.0	2.80 0.853
Nov. 12	1430	1250 35.4	2.74 0.835
May 8	2030	1550 43.9	2.77 0.844

Minimum daily discharge, no flow for several months.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	.42	2.3	0	.55	.35	0			0	
2	20	0	1.4	4.1	0	0	1.6	0			0	
3	0	0	1.5	127	0	0	2.0	0			0	
4	0	0	.42	2.5	0	0	1.2	0			0	
5	0	0	0	32	0	0	.05	0			0	
6	0	0	.55	44	0	0	0	0			0	
7	0	0	.66	11	0	0	0	0			0	
8	0	0	1.1	.42	0	0	0	75			0	
9	0	0	1.4	.22	0	0	0	20			0	
10	0	0	1.3	.18	0	0	0	1.5			0	
11	0	0	1.1	.30	0	0	0	0			0	
12	0	79	1.4	.08	0	0	0	.91			0	
13	0	4.0	.55	.05	0	0	0	.05			0	
14	0	2.0	.25	.11	0	0	0	0			0	
15	0	1.0	0	1.7	0	0	0	0			0	
16	0	1.0	.09	2.5	0	4.9	0	0			0	
17	0	.50	1.1	3.3	0	7.5	0	0			58	
18	0	.80	1.1	1.5	0	.80	.05	0			1.0	
19	0	1.0	1.4	.55	0	1.4	0	0			.06	
20	0	2.1	2.3	.11	0	1.7	0	0			0	
21	0	2.3	2.5	.99	.01	.06	0	0			.03	
22	304	1.9	2.5	1.0	.30	1.0	0	0			0	
23	19	.42	2.5	1.1	1.2	.03	0	0			.05	
24	1.0	.50	2.3	1.0	67	.03	0	.50			0	
25	0	.42	1.7	.11	2.4	21	0	0			0	
26	2.2	.13	1.5	.13	.74	1.5	0	0			0	
27	0	.13	.30	1.0	.60	2.2	0	0			0	
28	2.4	.25	.55	.11	2.8	4.2	0	0			0	
29	.20	1.0	1.4	0	---	2.0	0	0			0	
30	0	.80	37	0	---	.57	0	0			0	
31	0	---	7.0	0	---	1.5	---	0	---		0	---
TOTAL	348.80	99.25	77.29	239.36	75.05	50.94	5.25	97.96	0	0	59.14	0
MEAN	11.3	3.31	2.49	7.72	2.68	1.64	.18	3.16	0	0	1.91	0
MAX	304	79	37	127	67	21	2.0	75	0	0	58	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	692	197	153	475	149	101	10	194	0	0	117	0

WTR YR 1977 TOTAL 1053.04 MEAN 2.89 MAX 304 MIN 0 AC-FT 2090

11056200 SANTA ANA RIVER AT WATERMAN AVENUE, AT SAN BERNARDINO, CA--Continued

## WATER-QUALITY RECORDS

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

WATER TEMPERATURES: February 1975 to current year.

SEDIMENT RECORDS: February 1975 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: October 1976 to September 1977.

SEDIMENT RECORDS: October 1976 to September 1977.

REMARKS.--Suspended particle-size table and temperature values for February 1975 to September 1976 were omitted in 1976 report and are published with 1977 report.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 10,800 mg/l October 22, 1976; minimum daily mean, no flow for many days each year.

SEDIMENT DISCHARGE: Maximum daily, 16,900 tons (15,300 tonnes) October 22, 1976; minimum daily, 0 tons on many days each year.

EXTREMES FOR CURRENT YEAR.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 10,800 mg/l October 22; minimum daily mean, no flow for many days.

SEDIMENT DISCHARGE: Maximum daily, 16,900 tons (15,300 tonnes) October 22; minimum daily, 0 tons on many days.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---		---	---	---	---					---	
2	---		---	---	---	---					---	
3	---		---	12.5	---	---					---	
4	---		---	---	---	---					---	
5	---		---	---	---	---					---	
6	---		---	9.0	---	---					---	
7	---		---	12.5	---	---					---	
8	---		---	---	---	---					---	
9	---		---	---	---	---					---	
10	---		---	---	---	---					---	
11	---		---	---	---	---					---	
12	---		---	---	---	---					---	
13	---		---	---	---	---					---	
14	---		---	---	---	---					---	
15	---		---	---	---	---					---	
16	---		---	---	---	10.5					---	
17	---		---	14.0	---	7.0					24.0	
18	---		---	---	---	---					---	
19	---		---	---	---	---					---	
20	---		---	16.5	---	---					---	
21	---		---	---	---	---					---	
22	---		---	---	---	---					---	
23	---		---	---	---	---					---	
24	---		---	---	---	---					---	
25	---		---	---	---	10.0					---	
26	---		---	---	---	---					---	
27	---		---	---	---	---					---	
28	21.5		---	---	23.5	---					---	
29	---		---	---	---	---					---	
30	---		6.5	---	---	---					---	
31	---		---	---	---	---					---	
MONTH	---		---	---	---	---					---	

## SANTA ANA RIVER BASIN

11056200 SANTA ANA RIVER AT WATERMAN AVENUE, AT SAN BERNARDINO, CA--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	OCTOBER			NOVEMBER			DECEMBER		
	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	0	0	0	0	0	0	.42	50	.06
2	20	2580	262	0	0	0	1.4	86	.33
3	0	0	0	0	0	0	1.5	80	.32
4	0	0	0	0	0	0	.42	50	.06
5	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	.55	50	.07
7	0	0	0	0	0	0	.66	50	.09
8	0	0	0	0	0	0	1.1	70	.21
9	0	0	0	0	0	0	1.4	86	.33
10	0	0	0	0	0	0	1.3	80	.28
11	0	0	0	0	0	0	1.1	70	.21
12	0	0	0	79	3930	3830	1.4	85	.32
13	0	0	0	4.0	265	2.9	.55	61	.09
14	0	0	0	2.0	150	.81	.25	53	.04
15	0	0	0	1.0	75	.20	0	0	0
16	0	0	0	1.0	75	.20	.09	39	.01
17	0	0	0	.50	65	.09	1.1	70	.21
18	0	0	0	.80	75	.16	1.1	70	.21
19	0	0	0	1.0	78	.21	1.4	85	.32
20	0	0	0	2.1	155	.88	2.3	350	2.2
21	0	0	0	2.3	160	.99	2.5	325	2.2
22	304	10800	16900	1.9	140	.72	2.5	300	2.0
23	19	1530	268	.42	62	.07	2.5	275	1.9
24	1.0	240	.65	.50	65	.09	2.3	250	1.6
25	0	0	0	.42	60	.07	1.7	200	.92
26	2.2	440	2.6	.13	46	.02	1.5	150	.61
27	0	0	0	.13	46	.02	.30	50	.04
28	2.4	468	3.9	.25	55	.04	.55	50	.07
29	.20	70	.04	1.0	85	.23	1.4	150	.57
30	0	0	0	.80	75	.16	37	1710	507
31	0	0	0	---	---	---	7.0	365	6.9
TOTAL	348.80	---	17437.19	99.25	---	3837.86	77.29	---	529.17

DAY	JANUARY			FEBRUARY			MARCH		
	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	2.3	135	.84	0	0	0	.55	0	0
2	4.1	172	4.1	0	0	0	0	0	0
3	127	7170	4050	0	0	0	0	0	0
4	2.5	180	1.2	0	0	0	0	0	0
5	32	1350	731	0	0	0	0	0	0
6	44	1940	571	0	0	0	0	0	0
7	11	714	79	0	0	0	0	0	0
8	.42	65	.07	0	0	0	0	0	0
9	.22	54	.03	0	0	0	0	0	0
10	.18	50	.02	0	0	0	0	0	0
11	.30	50	.04	0	0	0	0	0	0
12	.08	42	.01	0	0	0	0	0	0
13	.05	35	0	0	0	0	0	0	0
14	.11	47	.01	0	0	0	0	0	0
15	1.7	105	.48	0	0	0	0	0	0
16	2.5	125	.84	0	0	0	4.9	725	136
17	3.3	145	1.3	0	0	0	7.5	4110	121
18	1.5	115	.47	0	0	0	.80	65	.14
19	.55	95	.16	0	0	0	1.4	72	.29
20	.11	40	.01	0	0	0	1.7	72	.33
21	.99	79	.23	.01	10	0	.06	40	.01
22	1.0	79	.23	.30	55	.04	1.0	60	.19
23	1.1	79	.25	1.2	75	.24	.03	20	0
24	1.0	74	.21	67	3010	1550	.03	154	.10
25	.11	44	.01	2.4	140	.91	21	2930	296
26	.13	47	.03	.74	64	.13	1.5	115	.47
27	1.0	75	.22	.60	50	.08	2.2	160	.95
28	.11	44	.01	2.8	160	1.2	4.2	275	3.1
29	0	0	0	---	---	---	2.0	150	.81
30	0	0	0	---	---	---	.57	60	.12
31	0	0	0	---	---	---	1.5	80	.36
TOTAL	239.36	---	5441.77	75.05	---	1552.60	50.94	---	559.87

11056200 SANTA ANA RIVER AT WATERMAN AVENUE, AT SAN BERNARDINO, CA--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	APRIL			MAY			JUNE		
	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	.35	60	.06	0	0	0			
2	1.6	76	.34	0	0	0			
3	2.0	145	.78	0	0	0			
4	1.2	98	.32	0	0	0			
5	.05	50	.01	0	0	0			
6	0	0	0	0	0	0			
7	0	0	0	0	0	0			
8	0	0	0	75	3630	2570			
9	0	0	0	20	1000	54			
10	0	0	0	1.5	125	.51			
11	0	0	0	0	0	0			
12	0	0	0	.91	255	1.6			
13	0	0	0	.05	25	0			
14	0	0	0	0	0	0			
15	0	0	0	0	0	0			
16	0	0	0	0	0	0			
17	0	0	0	0	0	0			
18	.05	48	.02	0	0	0			
19	0	0	0	0	0	0			
20	0	0	0	0	0	0			
21	0	0	0	0	0	0			
22	0	0	0	0	0	0			
23	0	0	0	0	0	0			
24	0	0	0	.50	61	.08			
25	0	0	0	0	0	0			
26	0	0	0	0	0	0			
27	0	0	0	0	0	0			
28	0	0	0	0	0	0			
29	0	0	0	0	0	0			
30	0	0	0	0	0	0			
31	---	---	---	0	0	0			
TOTAL	5.25	---	1.53	97.96	---	2626.19	0	0	0
DAY	JULY			AUGUST			SEPTEMBER		
	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1				0	0	0			
2				0	0	0			
3				0	0	0			
4				0	0	0			
5				0	0	0			
6				0	0	0			
7				0	0	0			
8				0	0	0			
9				0	0	0			
10				0	0	0			
11				0	0	0			
12				0	0	0			
13				0	0	0			
14				0	0	0			
15				0	0	0			
16				0	0	0			
17				58	2150	818			
18				1.0	450	1.2			
19				.06	25	0			
20				0	0	0			
21				.03	17	.01			
22				0	0	0			
23				.05	15	.01			
24				0	0	0			
25				0	0	0			
26				0	0	0			
27				0	0	0			
28				0	0	0			
29				0	0	0			
30				0	0	0			
31				0	0	0			
TOTAL	0	0	0	59.14	---	819.22	0	0	0
YEAR	1053.04		32805.40						

## SANTA ANA RIVER BASIN

11056200 SANTA ANA RIVER AT WATERMAN AVENUE, AT SAN BERNARDINO, CA

## PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	TEMPER- ATURE (DEG C)	INSTAN- TANEOUS DIS- CHARGE (CFS)	SUS- PENDE SEDI- MENT CHARGE (MG/L)	SUS- PENDE SEDI- MENT DIS- CHARGE (T/DAY)	SUS. SED. FALL DIAM. % FINER THAN .002 MM	SUS. SED. FALL DIAM. % FINER THAN .004 MM	SUS. SED. FALL DIAM. % FINER THAN .008 MM	SUS. SED. FALL DIAM. % FINER THAN .016 MM	SUS. SED. FALL DIAM. % FINER THAN .031 MM
OCT 28...	1250	21.5	2.5	678	4.6	33	40	50	59	65
DEC 20...	1420	16.5	2.5	337	2.3	42	61	68	72	73
30...	1445	--	56	3510	531	28	40	59	80	95
JAN 03...	1045	12.5	75	13900	2820	19	29	46	62	78
06...	1420	9.0	7.2	398	7.7	38	51	64	73	77
07...	1450	--	1.5	62	.25	--	--	--	--	--
MAR 16...	1705	10.5	6.8	2290	42	20	29	40	49	54
25...	1350	10.0	50	7170	968	4	7	9	12	16
AUG 17...	1315	24.0	154	1910	794	19	27	36	46	56

DATE	SUS. SED. FALL DIAM. % FINER THAN .062 MM	SUS. SED. SIEVE DIAM. % FINER THAN .062 MM	SUS. SED. FALL DIAM. % FINER THAN .125 MM	SUS. SED. SIEVE DIAM. % FINER THAN .125 MM	SUS. SED. FALL DIAM. % FINER THAN .250 MM	SUS. SED. SIEVE DIAM. % FINER THAN .250 MM	SUS. SED. FALL DIAM. % FINER THAN .500 MM	SUS. SED. SIEVE DIAM. % FINER THAN .500 MM	SUS. SED. FALL DIAM. % FINER THAN 1.00 MM	SUS. SED. SIEVE DIAM. % FINER THAN 1.00 MM
OCT 28...	--	68	--	81	--	94	--	100	--	--
DEC 20...	--	73	--	83	--	98	--	100	--	--
30...	--	98	--	99	--	100	--	--	--	--
JAN 03...	--	86	--	94	--	98	--	100	--	--
06...	--	81	--	86	--	95	--	100	--	--
07...	--	67	--	80	--	96	--	100	--	--
MAR 16...	57	--	63	--	75	--	89	--	100	--
25...	20	--	24	--	44	--	84	--	100	--
AUG 17...	--	64	--	76	--	92	--	99	--	100

## PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	NUMBER OF SAM- PLING POINTS	INSTAN- TANEOUS DIS- CHARGE (CFS)	BED MAT. SIEVE DIAM. % FINER THAN .062 MM	BED MAT. SIEVE DIAM. % FINER THAN .125 MM	BED MAT. SIEVE DIAM. % FINER THAN .250 MM	BED MAT. SIEVE DIAM. % FINER THAN .500 MM	BED MAT. SIEVE DIAM. % FINER THAN 1.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 2.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 4.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 8.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 16.0 MM
SEP 14...	1145	5	.00	1	3	14	42	74	89	95	98	100

11056200 SANTA ANA RIVER AT WATERMAN AVENUE, AT SAN BERNARDINO, CA--Continued

## PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	TEMPER- ATURE (DEG C)	INSTAN- TANEOUS DIS- CHARGE (CFS)	SUS- PENDE SEDIM- ENT (MG/L)	SUS- PENDE SEDIM- ENT (T/DAY)	SUS. SED. FALL DIAM. % FINER THAN .002 MM	SUS. SED. FALL DIAM. % FINER THAN .004 MM
FEB							
05...	1345	10.5	6.9	127	2.4	--	--
06...	1245	--	11	446	13	40	55
10...	1515	17.0	.40	291	.31	--	--
APR							
13...	1400	17.0	230	1050	652	51	69
SEP							
10...	1145	--	71	9600	1840	--	--
11...	1703	22.5	434	25900	30400	10	15

DATE	SUS. SED. FALL DIAM. % FINER THAN .008 MM	SUS. SED. FALL DIAM. % FINER THAN .016 MM	SUS. SED. FALL DIAM. % FINER THAN .031 MM	SUS. SED. FALL DIAM. % FINER THAN .062 MM	SUS. SED. FALL DIAM. % FINER THAN .125 MM	SUS. SED. FALL DIAM. % FINER THAN .250 MM	SUS. SED. FALL DIAM. % FINER THAN .500 MM
FEB							
05...	--	--	--	--	--	--	--
06...	67	79	85	89	93	97	100
10...	--	--	--	--	--	--	--
APR							
13...	84	91	97	98	98	100	--
SEP							
10...	--	--	--	--	--	--	--
11...	22	32	45	56	80	95	100

## SANTA ANA RIVER BASIN

11056500 LITTLE SAN GORGONIO CREEK NEAR BEAUMONT, CA

LOCATION.--Lat 34°01'45", long 116°56'43", in NW¼SW¼NW¼ sec.1, T.2 S., R.1 W., San Bernardino County, on right bank at upstream side of bridge on Oak Glen Road, 3.0 mi (4.8 km) upstream from Wallace Creek, and 7 mi (11 km) north of Beaumont.

DRAINAGE AREA.--1.74 mi<sup>2</sup> (4.51 km<sup>2</sup>).

PERIOD OF RECORD.--October 1948 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 4,320 ft (1,317 m), from topographic map. Prior to July 30, 1970, at site 42 ft (13 m) downstream on left bank at same datum.

REMARKS.--Records fair. No regulation above station. Several small diversions above station for irrigation. See schematic diagram of Santa Ana River basin.

AVERAGE DISCHARGE.--29 years, 0.43 ft<sup>3</sup>/s (0.012 m<sup>3</sup>/s), 312 acre-ft/yr (385,000 m<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,000 ft<sup>3</sup>/s (312 m<sup>3</sup>/s) Feb. 25, 1969, gage height, 8.50 ft (2.591 m), from floodmarks, from rating curve extended above 32 ft<sup>3</sup>/s (0.91 m<sup>3</sup>/s) on basis of slope-area measurements at gage heights 2.18 ft (0.655 m), 3.45 ft (1.052 m), and 8.50 ft (2.591 m); no flow for several months in most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 14.5 ft<sup>3</sup>/s (0.41 m<sup>3</sup>/s) Oct. 22, (1600 hrs), gage height 4.45 ft (1.356 m), no other peaks above base of 10 ft<sup>3</sup>/s (0.28 m<sup>3</sup>/s); no flow many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.01	.11	.07	.03	.16	.17	.23	0	.02		0	
2	.01	.38	.07	.17	.16	.20	.23	0	.01		0	
3	0	.07	.07	.86	.16	.19	.19	0	.01		0	
4	.01	.02	.07	.16	.10	.10	.17	0	.01		0	
5	0	.02	.07	.51	.08	.09	.21	0	0		0	
6	0	.02	.06	.40	.05	.05	.15	0	0		0	
7	0	.01	.07	.34	.04	.04	.10	0	0		0	
8	0	0	.06	.36	.09	.04	.12	.70	0		0	
9	0	.01	.05	.30	.10	.02	.13	1.7	0		0	
10	0	.01	.05	.30	.08	.01	.18	1.4	.01		0	
11	0	.02	.06	.28	.06	.02	.12	1.7	.02		0	
12	0	.10	.04	.26	.04	.06	.08	2.2	.01		0	
13	0	.02	.03	.24	.03	.12	.08	.52	.01		0	
14	0	.03	.03	.22	.11	.10	.08	.35	.01		0	
15	0	.07	.04	.20	.16	.08	.07	.48	.01		.08	
16	0	.11	.06	.19	.09	.08	.04	.25	.01		0	
17	.01	.11	.08	.20	.05	.09	.03	.20	0		.86	
18	.01	.09	.10	.19	.04	.09	.02	.13	0		0	
19	.01	.07	.11	.16	.04	.07	0	.05	0		0	
20	.01	.07	.10	.13	.10	.07	.03	0	0		0	
21	.01	.07	.11	.18	.21	.08	.02	.01	0		0	
22	.92	.07	.19	.15	.26	.06	0	.04	0		0	
23	.19	.06	.19	.15	.33	.05	0	.09	0		0	
24	.14	.08	.21	.15	.37	.08	0	.17	0		0	
25	.14	.10	.23	.15	.32	.47	0	.09	0		0	
26	.13	.10	.14	.21	.22	.28	0	.06	0		0	
27	.12	.09	.13	.22	.20	.30	0	.04	0		0	
28	.12	.11	.13	.52	.17	.30	0	.03	0		0	
29	.12	.09	.10	.54	---	.29	0	.02	0		0	
30	.11	.07	.21	.22	---	.27	0	.02	0		0	
31	.11	---	.04	.15	---	.27	---	.02	---		0	---
TOTAL	2.18	2.18	2.97	8.16	3.82	4.14	2.28	10.27	.13	0	.94	0
MEAN	.070	.073	.096	.26	.14	.13	.076	.33	.004	0	.030	0
MAX	.92	.38	.23	.86	.37	.47	.23	2.2	.02	0	.86	0
MIN	0	0	.03	.03	.03	.01	0	0	0	0	0	0
AC-FT	4.3	4.3	5.9	16	7.6	8.2	4.5	20	.3	0	1.9	0

CAL YR 1976 TOTAL 80.51 MEAN .22 MAX 23 MIN 0 AC-FT 160  
WTR YR 1977 TOTAL 37.07 MEAN .10 MAX 2.2 MIN 0 AC-FT 74



## 11057000 SAN TIMOTEO CREEK NEAR REDLANDS, CA

LOCATION.--Lat 34°01'58", long 117°12'28", in NE¼NE¼NE¼ sec.5, T.2 S., R.3 W., San Bernardino County, on upstream side of left end of bridge on San Timoteo Canyon Road, 2.0 mi (3.2 km) southwest of Redlands, and 3.4 mi (5.5 km) downstream from Yucaipa Creek.

DRAINAGE AREA.--118 mi<sup>2</sup> (306 km<sup>2</sup>).

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1926 to September 1968, October 1973 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 1,280 ft (390 m), from topographic map. Prior to Oct. 30, 1934, at site 2 mi (3 km) upstream at different datum.

REMARKS.--Records poor. No regulation above station. Pumping above station for irrigation. See schematic diagram of Santa Ana River basin.

AVERAGE DISCHARGE.--46 years (water years 1927-68, 1974-77), 1.30 ft<sup>3</sup>/s (0.037 m<sup>3</sup>/s), 942 acre-ft/yr (1.16 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,460 ft<sup>3</sup>/s (211 m<sup>3</sup>/s) Mar. 2, 1938, result of slope-area measurement of maximum flow; no flow for many months in each year.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 150 ft<sup>3</sup>/s (4.25 m<sup>3</sup>/s) and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)		Gage height (ft) (m)		Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)		Gage height (ft) (m)	
Oct. 22	2000	240	6.80	3.48	1.061	Feb. 24	1100	275	7.79	3.55	1.082
Jan. 3	0600	260	7.36	3.52	1.073	May 8	2130	*580	16.4	4.00	1.219

Minimum daily discharge, no flow most of year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0			0	0	0		0				
2	0			0	0	0		0				
3	0			32	0	0		0				
4	0			0	0	0		0				
5	0			0	0	0		0				
6	0			14	0	0		0				
7	0			0	0	0		0				
8	0			0	0	0		93				
9	0			0	0	0		11				
10	0			0	0	0		0				
11	0			0	0	0		0				
12	0			0	0	0		0				
13	0			0	0	0		0				
14	0			0	0	0		0				
15	0			0	0	0		0				
16	0			0	0	0		0				
17	0			0	0	0		0				
18	0			0	0	0		0				
19	0			0	0	0		0				
20	0			0	0	0		0				
21	0			0	0	0		0				
22	13			0	0	0		0				
23	0			0	0	0		0				
24	0			0	29	0		0				
25	0			0	0	2.8		0				
26	0			0	0	0		0				
27	0			0	0	0		0				
28	0			0	0	0		0				
29	0			0	---	0		0				
30	0			0	---	0		0				
31	0	---		0	---	0	---	0	---			---
TOTAL	13	0	0	46	29	2.8	0	104	0	0	0	0
MEAN	.42	0	0	1.48	1.04	.090	0	3.35	0	0	0	0
MAX	13	0	0	32	29	2.8	0	93	0	0	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	26	0	0	91	58	5.6	0	206	0	0	0	0

CAL YR 1976 TOTAL 226.63 MEAN .62 MAX 77 MIN 0 AC-FT 450  
WTR YR 1977 TOTAL 194.80 MEAN .53 MAX 93 MIN 0 AC-FT 386

## SANTA ANA RIVER BASIN

11057000 SAN TIMOTEO CREEK NEAR REDLANDS, CA--Continued

## WATER-QUALITY RECORDS

## PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: October 1976 to September 1977.

SEDIMENT RECORDS: October 1976 to September 1977.

## EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 19,900 mg/l, May 8, 1977; minimum daily mean, no flow for most of year.

SEDIMENT DISCHARGE: Maximum daily, 20,200 tons (18,300 tonnes) May 8, 1977; minimum daily, 0 tons for most of the year.

## EXTREMES FOR CURRENT YEAR.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 19,900 mg/l May 8; minimum daily mean, no flow for most of year.

SEDIMENT DISCHARGE: Maximum daily, 20,000 tons (18,300 tonnes) May 8; minimum daily, 0 tons for most of the year.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1				---		---		---			---	
2				---		---		---			---	
3				10.5		---		---			---	
4				---		---		---			---	
5				---		---		---			---	
6				10.5		---		---			---	
7				---		---		---			---	
8				---		---		---			---	
9				---		---		19.0			---	
10				---		---		---			---	
11				---		---		---			---	
12				---		---		---			---	
13				---		---		---			---	
14				---		---		---			---	
15				---		---		---			---	
16				---		---		---			---	
17				---		---		---			22.5	
18				---		---		---			---	
19				---		---		---			---	
20				---		---		---			---	
21				---		---		---			---	
22				---		---		---			---	
23				---		---		---			---	
24				---		---		---			---	
25				---		10.0		---			---	
26				---		---		---			---	
27				---		---		---			---	
28				---		---		---			---	
29				---		---		---			---	
30				---		---		---			---	
31				---		---		---			---	
MONTH				---		---		---			---	

11057000 SAN TIMOTEO CREEK NEAR REDLANDS, CA--Continued  
 SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	OCTOBER			NOVEMBER			DECEMBER		
	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	0	0	0						
2	0	0	0						
3	0	0	0						
4	0	0	0						
5	0	0	0						
6	0	0	0						
7	0	0	0						
8	0	0	0						
9	0	0	0						
10	0	0	0						
11	0	0	0						
12	0	0	0						
13	0	0	0						
14	0	0	0						
15	0	0	0						
16	0	0	0						
17	0	0	0						
18	0	0	0						
19	0	0	0						
20	0	0	0						
21	0	0	0						
22	13	7820	2690						
23	0	0	0						
24	0	0	0						
25	0	0	0						
26	0	0	0						
27	0	0	0						
28	0	0	0						
29	0	0	0						
30	0	0	0						
31	0	0	0						
TOTAL	13.00	---	2690.00	0	0	0	0	0	0

DAY	JANUARY			FEBRUARY			MARCH		
	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0
3	32	17600	5540	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0
6	14	17800	2500	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0
24	0	0	0	29	20100	4110	0	0	0
25	0	0	0	0	0	0	2.8	6800	51
26	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0
29	0	0	0	---	---	---	0	0	0
30	0	0	0	---	---	---	0	0	0
31	0	0	0	---	---	---	0	0	0
TOTAL	46.00	---	8040.00	29.00	---	4110.00	2.80	---	51.00

## SANTA ANA RIVER BASIN

11057000 SAN TIMOTEO CREEK NEAR REDLANDS, CA--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	APRIL			MAY			JUNE		
	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1				0	0	0			
2				0	0	0			
3				0	0	0			
4				0	0	0			
5				0	0	0			
6				0	0	0			
7				0	0	0			
8				93	19900	20200			
9				11	18300	1140			
10				0	0	0			
11				0	0	0			
12				0	0	0			
13				0	0	0			
14				0	0	0			
15				0	0	0			
16				0	0	0			
17				0	0	0			
18				0	0	0			
19				0	0	0			
20				0	0	0			
21				0	0	0			
22				0	0	0			
23				0	0	0			
24				0	0	0			
25				0	0	0			
26				0	0	0			
27				0	0	0			
28				0	0	0			
29				0	0	0			
30				0	0	0			
31				0	0	0			
TOTAL	0	0	0	104.00	---	21340.00	0	0	0

DAY	JULY			AUGUST			SEPTEMBER		
	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									
23									
24									
25									
26									
27									
28									
29									
30									
31									
TOTAL	0	0	0	0	0	0	0	0	0
YEAR	194.80		36231.0						

## 11057000 SAN TIMOTEO CREEK NEAR REDLANDS, CA--Continued

## PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	TEMPER- ATURE (DEG C)	INSTAN- TANEOUS DIS- CHARGE (CFS)	SUS- PEN- DED SEDIM- ENT (MG/L)	SUS- PEN- DED SEDIM- ENT (T/DAY)	SUS. SED. FALL DIAM. % FINER THAN .002 MM	SUS. SED. FALL DIAM. % FINER THAN .004 MM	SUS. SED. FALL DIAM. % FINER THAN .008 MM	SUS. SED. FALL DIAM. % FINER THAN .016 MM
JAN									
03...	0915	10.5	71	69000	13200	26	38	52	68
03...	0930	12.5	5.1	50700	698	35	49	69	84
06...	1030	10.5	19	48000	2460	24	35	47	61
MAY									
09...	1340	19.0	2.0	13100	71	50	72	90	96
AUG									
17...	1025	22.5	.28	21800	16	55	78	94	98

DATE	SUS. SED. FALL DIAM. % FINER THAN .031 MM	SUS. SED. FALL DIAM. % FINER THAN .062 MM	SUS. SED. FALL DIAM. % FINER THAN .062 MM	SUS. SED. FALL DIAM. % FINER THAN .125 MM	SUS. SED. FALL DIAM. % FINER THAN .125 MM	SUS. SED. FALL DIAM. % FINER THAN .250 MM	SUS. SED. FALL DIAM. % FINER THAN .250 MM	SUS. SED. FALL DIAM. % FINER THAN .500 MM
JAN								
03...	84	--	90	--	98	--	100	--
03...	93	97	--	99	--	100	--	--
06...	74	--	83	--	94	--	99	100
MAY								
09...	99	99	--	100	--	--	--	--
AUG								
17...	99	--	100	--	--	--	--	--

## PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	NUMBER OF SAM- PLING POINTS	BED MAT. SIEVE DIAM. % FINER THAN .062 MM	BED MAT. SIEVE DIAM. % FINER THAN .125 MM	BED MAT. SIEVE DIAM. % FINER THAN .250 MM	BED MAT. SIEVE DIAM. % FINER THAN .500 MM	BED MAT. SIEVE DIAM. % FINER THAN 1.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 2.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 4.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 8.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 16.0 MM	BED MAT. SIEVE DIAM. % FINER THAN 32.0 MM
SEP												
14...	1300	4	4	6	14	28	42	55	67	80	97	100

## SANTA ANA RIVER BASIN

11058500 EAST TWIN CREEK NEAR ARROWHEAD SPRINGS, CA

LOCATION.--Lat 34°10'45", long 117°15'53", in NW¼NE¼NE¼ sec.14, T.1 N., R.4 W., San Bernardino County, on right bank 100 ft (30 m) upstream from Del Rosa Water Co.'s diversion dam, 0.5 mi (0.8 km) south of Arrowhead Springs, and 1.0 mi (1.6 km) downstream from Strawberry Creek.

DRAINAGE AREA.--8.80 mi<sup>2</sup> (22.79 km<sup>2</sup>).

PERIOD OF RECORD.--December 1919 to current year. Prior to October 1952, published as Strawberry Creek near Arrowhead Springs.

GAGE.--Water-stage recorder. Broad-crested weir since September 1938. Altitude of gage is 1,590 ft (485 m), from topographic map.

REMARKS.--Records poor. No gage-height record for most of year. No regulation above station. One small diversion for domestic use above station. See schematic diagram of Santa Ana River basin.

AVERAGE DISCHARGE.--57 years (water years 1921-77), 4.32 ft<sup>3</sup>/s (0.122 m<sup>3</sup>/s), 3,130 acre-ft/yr (3.86 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,360 ft<sup>3</sup>/s (95.2 m<sup>3</sup>/s) Mar. 2, 1938, based on rainfall-runoff studies; no flow at times in 1929, 1931-35.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,880 ft<sup>3</sup>/s (53.2 m<sup>3</sup>/s) Oct. 22, (time unknown), gage height, 6.56 ft (1.999 m), on basis of slope-conveyance estimate of peak flow, no other peak above base of 40 ft<sup>3</sup>/s (1.13 m<sup>3</sup>/s); minimum daily, 0.30 ft<sup>3</sup>/s (0.008 m<sup>3</sup>/s) Aug. 6-15, Sept. 10-30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.86	1.0	.85	2.3	1.2	1.2	.90	.46	1.3	.60	.35	.35
2	.75	1.0	.85	4.5	1.2	1.2	.90	.47	1.2	.60	.35	.35
3	.82	.90	.85	14	1.1	1.2	.85	.47	1.2	.55	.35	.35
4	.96	.90	.85	4.0	.90	1.1	.80	.46	1.1	.55	.35	.35
5	.89	.90	.85	3.8	.90	1.1	.74	.46	1.1	.55	.35	.35
6	.83	.90	.85	5.0	.95	1.1	.50	.47	1.1	.55	.30	.35
7	.65	.90	.85	3.7	1.0	1.1	.48	.48	1.0	.50	.30	.35
8	.65	.90	.85	3.0	1.0	1.0	.50	10	1.0	.50	.30	.35
9	.60	.90	.85	2.5	1.0	1.0	.50	9.0	1.0	.50	.30	.35
10	.60	.90	.85	2.2	1.0	1.0	.82	5.5	.95	.50	.30	.30
11	.55	.90	.85	2.0	1.0	1.0	.82	3.0	.90	.50	.30	.30
12	.50	4.0	.85	1.9	1.0	1.0	.50	2.7	.90	.50	.30	.30
13	.65	2.3	.85	1.8	1.0	1.0	.48	2.4	.90	.45	.30	.30
14	.65	1.6	.85	1.7	1.0	1.0	.50	2.3	.85	.45	.30	.30
15	.65	1.2	.85	1.7	.95	1.0	.48	2.2	.80	.45	.30	.30
16	.60	1.1	.80	1.6	.95	2.4	.48	2.1	.80	.45	1.0	.30
17	.89	1.0	.80	1.6	.95	1.6	.50	2.0	.80	.45	5.0	.30
18	.83	.90	.80	1.5	.95	1.4	.50	1.9	.80	.45	2.3	.30
19	.75	.85	.80	1.5	.90	1.2	.48	1.9	.75	.40	1.3	.30
20	.67	.85	.80	1.5	.90	1.1	.47	1.8	.75	.40	.90	.30
21	.64	.80	.80	1.4	.90	1.0	.46	1.8	.70	.40	.70	.30
22	90	.75	.80	1.4	3.0	.95	.46	1.7	.70	.40	.65	.30
23	6.0	.75	.80	1.4	2.0	.90	.46	1.6	.70	.40	.50	.30
24	3.0	.75	.80	1.4	1.7	.90	.46	5.0	.65	.40	.45	.30
25	2.0	.75	.80	1.3	1.6	4.3	.46	2.9	.65	.40	.45	.30
26	1.7	.75	.80	1.3	1.5	2.7	.46	2.1	.65	.40	.40	.30
27	1.5	.80	.80	1.3	1.4	1.9	.46	1.8	.60	.40	.40	.30
28	1.4	.80	.80	1.3	1.3	1.4	.46	1.6	.60	.35	.40	.30
29	1.3	.80	4.0	1.3	---	1.1	.46	1.5	.60	.35	.40	.30
30	1.2	.80	3.3	1.2	---	1.0	.46	1.4	.60	.35	.35	.30
31	1.1	---	2.8	1.2	---	.95	---	1.3	---	.35	.35	---
TOTAL	124.19	31.65	33.25	76.3	33.25	40.80	16.80	72.77	25.65	14.10	20.30	9.45
MEAN	4.01	1.06	1.07	2.46	1.19	1.32	.56	2.35	.86	.45	.65	.32
MAX	90	4.0	4.0	14	3.0	4.3	.90	10	1.3	.60	5.0	.35
MIN	.50	.75	.80	1.2	.90	.90	.46	.46	.60	.35	.30	.30
AC-FT	246	63	66	151	66	81	33	144	51	28	40	19

CAL YR 1976 TOTAL 654.78 MEAN 1.79 MAX 90 MIN .34 AC-FT 1300  
WTR YR 1977 TOTAL 498.51 MEAN 1.37 MAX 90 MIN .30 AC-FT 989

## 11058600 WATERMAN CANYON CREEK NEAR ARROWHEAD SPRINGS, CA

LOCATION.--Lat 34°11'36", long 117°16'25", in NE¼NW¼NW¼ sec.11, T.1 N., R.4 W., San Bernardino County, on left bank 0.8 mi (1.3 km) northwest of Arrowhead Springs, and 1.3 mi (2.1 km) north of San Bernardino National Forest boundary.

DRAINAGE AREA.--4.65 mi<sup>2</sup> (12.04 km<sup>2</sup>).

PERIOD OF RECORD.--November 1911 to October 1914 (published as "near San Bernardino"), December 1919 to current year.

GAGE.--Water-stage recorder. Broad-crested weir since September 1938. Datum of gage is 2,045.46 ft (623.456 m) above mean sea level. Prior to December 1919, nonrecording gage at site 300 ft (91 m) downstream at different datum.

REMARKS.--Records good. No regulation above station. One small diversion for domestic use above station. See schematic diagram of Santa Ana River basin.

AVERAGE DISCHARGE.--59 years, (water years 1913-14, 1921-77), 2.49 ft<sup>3</sup>/s (0.071 m<sup>3</sup>/s), 1,800 acre-ft/yr (2.22 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD (SINCE 1920).--Maximum discharge, 2,350 ft<sup>3</sup>/s (66.6 m<sup>3</sup>/s) Mar. 2, 1938, based on rainfall-runoff studies; no flow at times in some years.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 35 ft<sup>3</sup>/s (0.99 m<sup>3</sup>/s) and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)
Oct. 22	1700	*86 2.43	2.86 0.872
Jan. 3	0315	42 1.19	2.66 0.811

Minimum daily discharge, 0.06 ft<sup>3</sup>/s (0.002 m<sup>3</sup>/s) Aug. 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.88	.95	.43	1.1	.82	.79	.73	.31	.94	.49	.10	.19
2	.89	.87	.42	1.3	.81	.82	.72	.29	.94	.48	.10	.18
3	.88	.79	.44	6.2	.67	.85	.70	.26	.98	.65	.07	.17
4	.83	.72	.47	2.0	.48	.76	.65	.29	.91	.44	.07	.13
5	.70	.66	.47	2.0	.53	.80	.60	.33	.82	.40	.08	.11
6	.63	.62	.46	3.5	.53	.79	.55	.35	.83	.35	.08	.08
7	.55	.57	.47	2.2	.64	.69	.54	.37	.91	.37	.07	.08
8	.39	.54	.47	1.7	.66	.63	.62	4.7	.95	.36	.06	.08
9	.32	.50	.44	1.6	.69	.72	.69	4.6	1.1	.35	.07	.08
10	.34	.50	.39	1.4	.62	.72	.72	2.6	1.0	.31	.07	.10
11	.35	.50	.41	1.3	.61	.69	.78	1.6	.98	.29	.08	.12
12	.34	2.0	.48	1.2	.69	.70	.64	1.5	.95	.29	.08	.14
13	.32	1.4	.49	1.1	.65	.74	.53	1.5	.86	.29	.11	.19
14	.35	1.0	.48	1.0	.65	.73	.53	1.4	.80	.26	.11	.21
15	.42	.80	.46	1.0	.66	.70	.50	1.4	.75	.22	.09	.24
16	.41	.60	.43	.94	.64	1.3	.47	1.3	.73	.18	.39	.25
17	.35	.50	.47	.89	.62	.91	.46	1.2	.67	.19	3.3	.27
18	.47	.45	.52	.89	.61	.73	.45	1.2	.67	.17	.96	.25
19	.51	.43	.50	.89	.61	.62	.35	1.1	.65	.16	.62	.23
20	.50	.43	.54	.89	.63	.59	.37	1.0	.71	.18	.46	.25
21	.66	.42	.48	.99	.77	.52	.38	.80	.69	.18	.38	.23
22	6.8	.40	.49	.97	1.7	.49	.36	.86	.65	.14	.35	.21
23	2.3	.38	.50	.96	1.0	.60	.27	1.4	.61	.13	.34	.23
24	2.0	.39	.49	.93	1.1	.98	.25	3.5	.57	.15	.32	.21
25	1.8	.42	.50	.89	.93	2.2	.29	1.7	.52	.14	.30	.20
26	1.7	.50	.50	.92	.87	1.5	.29	1.4	.54	.12	.38	.27
27	1.5	.42	.52	.87	.83	1.2	.32	1.3	.53	.08	.38	.36
28	1.4	.45	.50	.85	.81	1.1	.27	1.2	.49	.08	.35	.34
29	1.2	.45	.57	.83	---	.93	.27	1.1	.48	.08	.24	.33
30	1.1	.45	2.0	.81	---	.88	.28	1.0	.50	.08	.18	.35
31	1.1	---	1.6	.84	---	.76	---	.99	---	.08	.21	---
TOTAL	31.99	19.11	17.39	42.96	20.83	26.44	14.58	42.55	22.73	7.69	10.40	6.08
MEAN	1.03	.64	.56	1.39	.74	.85	.49	1.37	.76	.25	.34	.20
MAX	6.8	2.0	2.0	6.2	1.7	2.2	.78	4.7	1.1	.65	3.3	.36
MIN	.32	.38	.39	.81	.48	.49	.25	.26	.48	.08	.06	.08
AC-FT	63	38	34	85	41	52	29	84	45	15	21	12
CAL YR 1976	TOTAL 365.34	MEAN 1.00	MAX 24	MIN .02	AC-FT 725							
WTR YR 1977	TOTAL 262.75	MEAN .72	MAX 6.8	MIN .06	AC-FT 521							

## SANTA ANA RIVER BASIN

## 11059000 WARM CREEK FLOODWAY AT SAN BERNARDINO, CA

LOCATION.--Lat 34°05'45", long 117°16'30", in San Bernardino Grant, San Bernardino County, on left bank 0.4 mi (0.6 km) upstream from Mill Street, and 1.8 mi (2.9 km) upstream from mouth.

DRAINAGE AREA.--47.8 mi<sup>2</sup> (123.8 km<sup>2</sup>).

PERIOD OF RECORD.--January 1961 to current year. Prior to October 1965, published as "near San Bernardino."

GAGE.--Water-stage recorder. Altitude of gage is 1,000 ft (305 m), from topographic map. Prior to Dec. 21, 1967, at site 0.4 mi (0.6 km) downstream at different datum.

REMARKS.--Records fair. Flow partly regulated by percolation basins above Marshall Boulevard. Del Rosa Water Co. diverts from East Twin Creek for domestic use and irrigation. See schematic diagram of Santa Ana River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,600 ft<sup>3</sup>/s (272 m<sup>3</sup>/s) Feb. 25, 1969, gage height, 6.75 ft (2.057 m), from rating curve extended above 3,000 ft<sup>3</sup>/s (85.0 m<sup>3</sup>/s); no flow most of each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,340 ft<sup>3</sup>/s (38.0 m<sup>3</sup>/s), Jan. 3 (0330 hrs), gage height, 4.30 ft (1.311 m); no flow most of year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	.63	0	0		0		0	0	0
2	0	0	0	24	0	0		0		0	0	0
3	0	0	0	170	0	0		0		0	0	0
4	0	0	0	2.2	0	0		0		0	0	0
5	0	0	0	19	.94	0		0		0	0	0
6	0	0	0	106	1.4	0		0		0	0	0
7	0	0	0	11	.50	0		.14		0	0	0
8	0	0	0	.31	0	0		151		0	0	.81
9	0	0	0	3.2	0	0		123		0	0	.08
10	0	0	0	0	0	0		25		0	0	0
11	0	0	0	0	0	0		1.8		0	0	0
12	0	15	0	0	0	0		3.1		0	0	0
13	0	.83	8.0	0	1.3	0		.30		0	0	0
14	0	.97	8.4	0	0	0		0		0	0	0
15	0	0	0	0	0	0		0		0	0	0
16	0	0	0	0	0	5.3		.42		0	5.1	0
17	0	0	0	0	0	2.8		0		0	176	0
18	0	0	0	0	0	0		0		0	3.8	0
19	0	0	0	0	0	0		0		0	0	0
20	1.3	0	0	0	0	0		0		0	0	0
21	0	0	0	.53	0	0		0		0	0	0
22	42	0	0	0	.40	0		0		0	0	0
23	3.0	0	0	0	.28	0		2.4		0	0	0
24	2.8	0	0	0	14	1.6		20		0	0	0
25	.09	0	0	.05	.51	88		.23		0	0	0
26	0	0	0	.56	0	1.2		0		0	0	0
27	0	0	0	0	0	0		0		0	0	0
28	0	0	0	0	0	0		0		0	0	0
29	0	0	0	0	---	0		0		0	0	0
30	0	0	65	0	---	.05		0		.46	0	0
31	0	---	4.6	0	---	.06	---	0	---	1.3	0	---
TOTAL	49.19	16.80	86.0	337.48	19.33	99.01	0	327.39	0	1.76	184.9	.89
MEAN	1.59	.56	2.77	10.9	.69	3.19	0	10.6	0	.057	5.96	.030
MAX	42	15	65	170	14	88	0	151	0	1.3	176	.81
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	98	33	171	669	38	196	0	649	0	3.5	367	1.8
CAL YR 1976	TOTAL	1681.54	MEAN	4.59	MAX	340	MIN	0	AC-FT	3340		
WTR YR 1977	TOTAL	1122.75	MEAN	3.08	MAX	176	MIN	0	AC-FT	2230		



## 11059100 SAN BERNARDINO WATER QUALITY CONTROL PLANT AT SAN BERNARDINO, CA

LOCATION.--Lat 34°04'16", long 117°17'16", in San Bernardino Grant, San Bernardino County, at effluent end of chlorine contact chamber, 0.5 mi (0.8 km) upstream from Santa Ana River at E Street bridge, in San Bernardino.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1972 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 979.50 ft (298.552 m) above mean sea level (levels by city of San Bernardino).

REMARKS.--Records good.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 30 ft<sup>3</sup>/s (0.85 m<sup>3</sup>/s) Jan. 7, 1974, Sept. 10, 11, 1976, Aug. 17, 1977; minimum daily, 12 ft<sup>3</sup>/s (0.34 m<sup>3</sup>/s) Oct. 25, Nov. 4, 5, 7-9, 1972.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25	25	25	24	25	23	24	23	24	24	26	25
2	24	25	25	25	25	24	23	24	24	24	24	25
3	24	25	25	29	25	24	24	23	24	22	23	25
4	26	25	24	25	25	24	25	23	24	23	25	23
5	24	25	25	26	24	24	24	23	23	25	25	25
6	25	24	25	28	24	23	24	23	25	23	24	25
7	25	24	24	25	25	24	24	23	25	23	24	25
8	25	25	25	25	24	24	24	25	24	24	25	25
9	24	25	24	25	24	24	24	26	23	23	25	25
10	24	24	25	26	25	24	22	25	24	23	25	24
11	26	25	24	25	25	25	24	25	24	24	24	25
12	25	26	24	26	24	24	25	24	24	24	25	26
13	25	25	25	26	24	23	24	24	24	24	24	25
14	25	24	25	25	25	24	23	23	24	24	24	24
15	25	26	25	25	25	24	24	22	24	24	26	24
16	24	26	25	25	24	24	23	24	24	24	26	25
17	24	25	25	26	25	25	23	24	24	23	30	25
18	25	24	25	25	24	25	25	25	24	25	21	25
19	25	25	24	25	24	25	24	23	23	22	21	26
20	25	24	25	25	22	24	24	24	25	22	26	25
21	25	24	26	25	25	25	24	23	24	20	25	25
22	25	25	25	25	25	24	24	22	23	20	27	25
23	25	25	25	25	23	24	23	24	24	25	26	25
24	24	24	25	26	24	24	23	24	24	24	25	24
25	26	24	22	25	25	26	24	24	23	25	24	24
26	25	24	24	26	24	24	23	25	23	24	25	26
27	25	24	26	25	24	24	23	24	25	24	24	24
28	25	24	25	25	25	24	23	23	24	24	24	24
29	24	26	25	25	---	24	24	21	23	24	26	24
30	24	25	26	25	---	24	23	23	23	25	25	24
31	24	---	26	25	---	24	---	24	---	24	25	---
TOTAL	767	742	769	788	683	748	711	733	716	729	769	742
MEAN	24.7	24.7	24.8	25.4	24.4	24.1	23.7	23.6	23.9	23.5	24.8	24.7
MAX	26	26	26	29	25	26	25	26	25	25	30	26
MIN	24	24	22	24	22	23	22	21	23	20	21	23
AC-FT	1520	1470	1530	1560	1350	1480	1410	1450	1420	1450	1530	1470
CAL YR 1976	TOTAL	8838	MEAN 24.1	MAX 30	MIN 20	AC-FT	17530					
WTR YR 1977	TOTAL	8897	MEAN 24.4	MAX 30	MIN 20	AC-FT	17650					

## SANTA ANA RIVER BASIN

11059100 SAN BERNARDINO WATER QUALITY CONTROL PLANT AT SAN BERNARDINO, CA--Continued

## WATER-QUALITY RECORDS

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

CHEMICAL ANALYSES: Water years 1973 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1972 to current year.

INSTRUMENTATION.--Specific conductance recorder since October 1972.

EXTREMES FOR PERIOD OF RECORD.--

SPECIFIC CONDUCTANCE: Maximum recorded, 1,260 micromhos May 23, 1975; minimum, 725 micromhos Sept. 11, 1976.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 1,140 micromhos April 11; minimum, 795 micromhos May 9.

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	TEMPER- ATURE (DEG C)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	DIS- SOLVED SOLIDS (TONS PER AC-FT)	DIS- SOLVED SOLIDS (TONS PER DAY)
OCT							
14...	0810	14	1030	25.9	577	.78	22.9
NOV							
01...	0800	13	954	23.8	542	.74	19.0
17...	0830	19	994	23.7	542	.74	27.8
DEC							
01...	0745	11	942	21.6	552	.75	16.4
23...	0945	29	906	22.1	535	.73	41.9
JAN							
04...	1600	33	970	21.1	564	.77	50.3
18...	0745	14	1000	19.0	556	.76	21.0
FEB							
01...	0945	--	913	21.5	511	--	--
17...	1000	36	1000	22.3	545	.74	53.0
MAR							
01...	1030	36	976	21.5	528	.72	51.3
15...	1600	27	1030	22.5	540	.73	39.4
APR							
01...	0800	14	1090	20.9	571	.78	21.6
13...	1600	26	934	24.2	529	.72	37.1
MAY							
03...	0945	33	1000	25.6	561	.76	50.0
19...	0940	33	1000	23.8	570	.78	50.8
JUN							
02...	1340	29	879	27.0	533	.72	41.7
15...	0810	15	930	--	557	.76	22.6
JUL							
01...	1100	31	900	28.5	534	.73	44.7
12...	1300	33	955	28.7	528	.72	47.0
AUG							
02...	1430	31	901	31.0	510	.69	42.7
23...	1410	33	939	23.0	515	.70	45.9
SEP							
02...	0840	14	989	24.2	576	.78	21.8
16...	1405	33	890	29.5	521	.71	46.4

## 11059100 SAN BERNARDINO WATER QUALITY CONTROL PLANT AT SAN BERNARDINO, CA--Continued

## SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	1040	965	1010	1060	927	982	986	868	936	966	878	932
2	1040	976	1000	1050	970	1020	984	874	938	967	891	936
3	1020	957	988	1040	936	992	986	896	951	975	825	918
4	1070	957	1010	1040	945	1000	999	905	960	1020	948	990
5	1100	1010	1050	1080	955	1020	949	849	909	1050	946	1010
6	1050	950	1000	1040	952	1000	957	857	915	1020	878	942
7	1040	941	994	1020	925	977	969	889	938	980	888	939
8	1030	961	1000	1060	945	998	984	848	931	977	903	948
9	1020	926	977	1070	972	1030	990	872	939	955	879	925
10	990	912	956	1070	969	1030	966	876	932	971	893	933
11	1070	923	974	1070	981	1040	942	836	900	995	895	954
12	1090	981	1040	1050	972	1010	922	816	883	991	895	949
13	1070	964	1030	1030	962	998	977	817	892	995	883	951
14	1060	948	1010	1000	943	977	993	897	954	997	887	960
15	1050	942	993	1060	934	990	1010	865	934	980	872	940
16	1050	965	998	1040	964	1010	1010	865	941	956	866	920
17	1000	915	965	1050	943	999	978	882	943	1020	880	945
18	1030	907	968	1040	945	1000	970	868	938	1010	914	977
19	1020	927	987	1040	950	1000	944	836	901	1030	918	979
20	1020	936	980	1040	964	1010	948	828	896	1010	918	972
21	1050	946	1000	1030	924	979	977	873	940	1000	932	980
22	1060	938	1000	1010	903	962	961	855	925	1010	920	968
23	1020	937	978	1010	937	981	993	839	927	952	862	915
24	1020	939	982	1030	921	973	972	868	934	996	870	930
25	1050	945	979	1040	946	1010	924	832	891	1020	918	976
26	1090	981	1030	1030	940	989	941	827	884	1020	904	966
27	1090	972	1020	1010	919	974	1030	867	943	---	---	---
28	1070	974	1040	983	877	940	1040	902	987	---	---	---
29	1080	986	1050	979	845	923	1030	901	982	---	---	---
30	1050	952	1000	970	862	931	1040	929	997	---	---	---
31	1000	921	966	---	---	---	984	910	954	---	---	---
MONTH	1100	907	999	1080	845	992	1040	816	932	1050	825	952
DAY	FEBRUARY			MARCH			APRIL			MAY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	---	---	---	---	---	---	1120	1010	1080	993	863	930
2	---	---	---	1110	976	1060	1100	979	1050	1040	890	967
3	---	---	---	1100	984	1050	1070	954	1010	1060	911	1000
4	---	---	---	1070	965	1020	1080	954	1010	1060	901	1000
5	---	---	---	1040	947	1000	1080	945	1030	1050	943	1000
6	---	---	---	1010	924	972	1070	959	1020	1030	931	999
7	---	---	---	1050	902	974	1040	932	995	1030	909	978
8	---	---	---	1060	970	1020	1050	928	999	941	855	903
9	---	---	---	1070	955	1020	1070	962	1030	975	795	891
10	---	---	---	1060	979	1030	1050	947	1000	999	871	947
11	---	---	---	1090	991	1050	1140	961	1020	1080	933	1010
12	---	---	---	1080	982	1040	1120	980	1060	1060	933	1020
13	---	---	---	1020	930	984	1070	926	1000	1040	931	1000
14	---	---	---	1050	937	989	1040	933	996	1080	951	1020
15	---	---	---	1100	963	1050	1040	917	987	1020	911	969
16	---	---	---	1080	990	1050	1020	926	986	1010	915	962
17	---	---	---	1070	969	1030	1020	865	946	1050	931	1000
18	---	---	---	1110	965	1030	1020	870	947	1060	933	1010
19	---	---	---	1100	981	1050	1030	924	991	1050	939	1010
20	---	---	---	1030	939	993	1010	883	959	1040	919	987
21	---	---	---	1040	926	993	1010	888	965	1030	907	967
22	---	---	---	1060	948	1010	1020	891	968	973	887	938
23	---	---	---	1060	950	1020	989	861	942	1030	911	957
24	---	---	---	1050	967	1020	1020	878	954	1030	935	992
25	---	---	---	1040	919	988	1010	837	923	1040	925	998
26	---	---	---	1050	975	1020	1010	872	955	1030	915	986
27	---	---	---	1040	948	993	996	870	956	1030	903	981
28	---	---	---	1080	946	1010	1040	893	968	997	869	947
29	---	---	---	1090	996	1050	1030	914	992	939	819	884
30	---	---	---	1090	958	1030	1040	907	975	953	823	888
31	---	---	---	1120	1020	1070	---	---	---	983	823	906
MONTH	---	---	---	1120	902	1020	1140	837	990	1080	795	969



LOCATION.--Lat 34°04'05", long 117°17'36", in San Bernardino Grant, San Bernardino County, on downstream side of E Street bridge, 0.8 mi (1.3 km) downstream from San Timoteo Creek, 1 mi (2 km) upstream from Warm Creek, and 3 mi (5 km) south of San Bernardino.

PERIOD OF RECORD.--March 1939 to September 1954, October 1966 to current year.

GAGE.--Water-stage recorder. Datum of gage is 954.50 ft (290.932 m) above mean sea level. Prior to Nov. 10, 1950, water-stage recorder on right bank at datum 10.00 ft (3.048 m) higher. Nov. 11, 1950, to Sept. 30, 1954, water-stage recorders on both banks at datum 10.00 ft (3.048 m) higher.

REMARKS.--Records poor. Major construction work in river channel throughout entire water year precluded collection of gage-height data and definition of stage-discharge relation; therefore, flow was estimated on basis of records from upstream stations and discharge measurements. Flow partly regulated by Big Bear Lake (station 11049000). Natural flow of stream affected by ground-water withdrawals and diversions for domestic use and irrigation above station. Effluent from sewage reclamation plant causes sustained flow since station was last operated. See schematic diagram of Santa Ana River basin.

AVERAGE DISCHARGE.--15 years (water years 1940-54), 12.5 ft<sup>3</sup>/s (0.354 m<sup>3</sup>/s), 9,050 acre-ft/yr (11.2 hm<sup>3</sup>/yr);  
11 years (water years 1967-77), 58.2 ft<sup>3</sup>/s (1.648 m<sup>3</sup>/s), 42,170 acre-ft/yr (52.0 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 28,000 ft<sup>3</sup>/s (793 m<sup>3</sup>/s) Feb. 25, 1969; maximum gage height, 16.50 ft (5.029 m), present datum, Jan. 23, 1943, discharge uncertain but was probably less than 8,000 ft<sup>3</sup>/s (227 m<sup>3</sup>/s); no flow many days prior to 1967.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25	25	25	27	25	24	24	23	24	24	26	25
2	44	25	26	57	25	24	25	24	24	24	24	25
3	24	25	27	352	25	24	26	23	24	22	23	25
4	26	25	24	30	25	24	26	23	24	23	25	23
5	24	25	26	80	25	24	24	23	23	25	25	25
6	25	24	26	194	26	23	24	23	25	23	24	25
7	25	24	25	49	26	24	24	174	25	23	24	25
8	25	25	26	26	24	24	24	246	24	24	25	25
9	24	25	25	28	24	24	24	90	23	23	25	25
10	24	24	26	26	25	24	22	32	24	23	25	24
11	26	25	26	25	25	25	24	28	24	24	24	25
12	25	122	25	26	24	24	25	25	24	24	25	26
13	25	30	34	27	24	23	24	24	24	24	24	25
14	25	27	34	25	25	24	23	23	24	24	24	24
15	25	27	25	27	25	24	24	22	24	24	26	24
16	24	27	25	28	24	35	23	24	24	24	32	25
17	24	26	26	29	25	35	23	24	24	23	291	25
18	25	25	26	27	24	26	25	25	24	25	27	25
19	25	26	25	26	24	39	24	23	23	22	21	26
20	26	26	25	25	22	26	24	24	25	22	26	25
21	25	26	29	27	25	25	24	23	24	20	25	25
22	378	27	28	26	26	25	24	22	23	20	27	25
23	47	25	28	26	24	24	23	26	24	25	26	25
24	28	25	27	26	107	26	23	48	24	24	25	24
25	26	24	24	25	28	149	24	24	23	25	24	24
26	47	24	26	27	25	27	23	25	23	24	25	26
27	27	24	26	26	25	26	23	24	25	24	24	24
28	27	24	26	25	28	28	23	23	24	24	24	24
29	24	27	39	25	---	26	24	21	23	24	26	24
30	24	26	138	25	---	25	23	23	23	25	25	24
31	24	---	39	25	---	26	---	24	---	24	25	---
TOTAL	1193	860	957	1417	780	927	716	1206	716	729	1042	742
MEAN	38.5	28.7	30.9	45.7	27.9	29.9	23.9	38.9	23.9	23.5	33.6	24.7
MAX	378	122	138	352	107	149	26	246	25	25	291	26
MIN	24	24	24	25	22	23	22	21	23	20	21	23
AC-FT	2370	1710	1900	2810	1550	1840	1420	2390	1420	1450	2070	1470
CAL YR 1976	TOTAL	12098		MEAN 33.1	MAX 800	MIN 21	AC-FT 24000					
WTR YR 1977	TOTAL	11285		MEAN 30.9	MAX 378	MIN 20	AC-FT 22380					

## SANTA ANA RIVER BASIN

11060400 WARM CREEK NEAR SAN BERNARDINO, CA

LOCATION.--Lat 34°04'42", long 117°17'58", in San Bernardino Grant, San Bernardino County, on left bank 0.2 mi (0.3 km) downstream from State Highway 395 bridge, and 2.0 mi (3.2 km) southeast of San Bernardino.

DRAINAGE AREA.--15.0 mi<sup>2</sup> (38.9 km<sup>2</sup>).

PERIOD OF RECORD.--February 1964 to September 1972, October 1974 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 960 ft (293 m), from topographic map. Prior to Oct. 1, 1974, at site 0.1 mi (0.2 km) upstream at different datum.

REMARKS.--Records good above 5.0 ft<sup>3</sup>/s (0.14 m<sup>3</sup>/s) and poor below. Natural channel prior to September 1972; concrete-lined channel October 1974 to current year. No regulation or diversion above station. See schematic diagram of Santa Ana River basin.

AVERAGE DISCHARGE.--8 years (water years 1965-72), 1.61 ft<sup>3</sup>/s (0.046 m<sup>3</sup>/s), 1,170 acre-ft/yr (1.44 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,200 ft<sup>3</sup>/s (62.3 m<sup>3</sup>/s) Jan. 25, 1969, gage height, 5.55 ft (1.692 m), at site and datum then in use; no flow many days in each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,100 ft<sup>3</sup>/s (31.2 m<sup>3</sup>/s) Jan. 3, gage height, 2.53 ft (0.771 m); no flow for several days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.9	.06	.02	.45	0	0	.70	.01	0	.15	.18	.24
2	1.9	.15	.08	15	0	0	.16	.10	0	.15	.28	.22
3	1.9	.24	.13	102	0	0	.01	.08	.12	.08	.17	.32
4	1.1	.10	.05	1.3	.01	0	.05	.08	.13	.07	.24	.08
5	.14	.14	.04	13	.04	0	.06	.02	.15	.15	.27	.09
6	.23	.14	.01	62	0	0	.19	.01	.03	.16	.08	.79
7	.18	.22	0	8.6	.01	0	.40	.42	.09	.40	.19	.81
8	.11	.28	0	2.0	.09	0	.19	.69	.09	.29	.32	.09
9	.06	.14	.02	.68	.54	0	.38	.32	.06	.10	.39	.30
10	0	.29	.03	.26	1.1	0	.05	1.7	.31	.05	.39	.16
11	.01	.28	0	.18	.96	0	.04	.27	.08	.09	.50	.31
12	.05	.28	0	.14	.53	0	.07	2.5	0	.30	.89	.28
13	.41	.18	.14	.08	.19	0	.13	.16	0	.05	.09	.25
14	.54	.46	.05	0	1.2	0	.57	.05	.20	.21	.13	.12
15	.91	.10	.13	0	1.3	0	.20	0	.04	.13	1.5	.05
16	.09	.36	.36	0	.40	12	.32	0	.04	.08	8.2	.16
17	.02	1.1	.62	0	.53	1.9	.26	0	.23	1.2	120	.03
18	.04	.19	.37	0	.21	.01	.18	0	.29	.09	2.0	.01
19	.08	.56	.13	0	.26	0	.04	0	.42	.07	.37	0
20	.15	.08	.18	0	.22	0	.14	0	.95	.10	.32	.40
21	.39	.04	.21	2.3	.05	.08	.21	0	1.1	.19	.10	.74
22	1.4	.09	.05	.69	.75	0	.09	.07	.08	.11	.13	.58
23	5.0	.08	.01	.36	.58	.01	.06	3.2	.17	.06	.16	.03
24	.15	.26	0	.19	14	6.1	.07	9.7	.18	.02	.08	0
25	.11	.14	0	.12	.61	55	.16	.31	.20	.04	.28	0
26	.02	.06	0	2.6	.09	.46	.13	.03	.11	.08	.42	.01
27	0	.23	0	.28	0	0	.19	0	.01	.27	.10	0
28	.03	.07	.01	.18	0	.03	.05	.03	.42	.62	.11	.53
29	.04	.02	.01	.22	---	.05	.02	0	.22	1.6	.08	.04
30	.02	0	.41	.13	---	1.7	.08	0	.30	.47	.29	.48
31	0	---	2.8	.02	---	.48	---	0	---	.40	.37	---
TOTAL	16.98	34.06	46.45	212.78	23.67	77.82	5.20	119.74	6.02	7.78	138.63	7.12
MEAN	.55	1.14	1.50	6.86	.85	2.51	.17	3.86	.20	.25	4.47	.24
MAX	5.0	.28	.41	102	14	55	.70	.69	1.1	1.6	120	.81
MIN	0	0	0	0	0	0	.01	0	0	.02	.08	0
AC-FT	34	68	92	422	47	154	10	238	12	15	275	14

CAL YR 1976 TOTAL 887.97 MEAN 2.43 MAX 205 MIN 0 AC-FT 1760  
WTR YR 1977 TOTAL 696.25 MEAN 1.91 MAX 120 MIN 0 AC-FT 1380

## 11060500 MEEKS AND DALEY CANAL NEAR COLTON, CA

LOCATION.--Lat 34°04'47", long 117°18'00", in San Bernardino Grant, San Bernardino County, 1.5 mi (2.4 km) north-east of Colton.

PERIOD OF RECORD.--September 1920 to current year. Published with station Warm Creek near Colton, October 1950 to September 1961.

GAGE.--Water-stage recorder. Altitude of gage is 965 ft (294 m), from topographic map.

REMARKS.--Records good. All flow passing station is pumped from ground-water basin for irrigation in vicinity of Colton, Riverside, and Corona. See schematic diagram of Santa Ana River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 25 ft<sup>3</sup>/s (0.71 m<sup>3</sup>/s) Mar. 2, 1938; no flow at times in most years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.0	4.4	5.0	4.4	0	0	0	0	5.0	4.4	4.4	4.4
2	5.0	4.4	5.0	4.4	0	0	0	0	4.7	4.4	4.4	4.4
3	5.0	4.4	5.0	4.7	0	0	0	3.4	5.0	4.4	4.4	4.4
4	5.0	4.7	5.0	4.1	0	0	4.0	4.9	4.6	4.4	4.5	4.4
5	5.0	5.0	4.7	2.7	0	0	5.3	4.9	4.6	4.4	4.4	4.4
6	5.0	5.0	4.7	0	0	0	5.2	4.7	4.4	4.4	4.4	4.4
7	5.0	5.0	4.7	0	0	0	5.2	4.7	4.4	4.4	4.4	4.5
8	5.0	5.0	4.7	0	3.4	0	5.2	4.7	4.4	4.4	4.4	4.4
9	5.2	9.9	4.7	0	5.0	0	5.2	1.6	4.4	4.4	4.4	4.4
10	5.2	13	4.7	0	4.9	0	5.2	0	4.4	4.3	4.4	4.4
11	5.2	12	4.7	0	4.9	0	5.2	0	4.4	4.4	4.4	4.4
12	5.2	12	4.7	0	4.9	0	5.2	0	4.4	4.4	4.4	4.4
13	5.2	12	4.7	0	4.9	0	5.2	0	4.4	4.3	4.4	4.4
14	5.2	12	4.7	0	4.9	0	5.1	0	4.4	4.4	4.4	4.4
15	5.2	12	4.7	0	4.9	4.2	5.0	0	4.4	4.3	4.4	4.2
16	5.2	12	4.4	0	4.9	5.2	5.0	0	4.4	4.3	4.4	4.1
17	5.2	7.6	4.7	0	4.9	5.2	5.0	0	4.4	4.4	1.4	4.1
18	5.2	5.8	4.7	0	4.9	5.0	5.0	0	4.4	4.5	0	4.1
19	5.2	6.2	4.7	0	4.9	4.9	5.0	0	4.4	4.6	0	4.2
20	5.2	5.5	4.7	0	4.9	5.0	5.0	0	4.4	4.4	0	4.1
21	5.2	5.0	4.7	0	5.0	4.9	5.0	0	4.4	4.5	0	4.1
22	5.2	5.2	4.4	0	4.9	4.9	5.0	0	4.4	4.5	0	4.1
23	5.2	5.2	4.4	0	4.9	4.9	5.0	0	4.5	4.5	0	4.2
24	5.0	5.2	4.4	0	2.2	4.9	5.0	3.3	4.4	4.4	0	4.1
25	5.0	5.0	4.1	0	0	1.7	5.0	4.9	4.4	4.4	0	4.5
26	4.4	5.0	4.4	0	0	0	5.0	4.9	4.4	4.4	0	5.3
27	3.9	5.0	4.4	0	0	0	5.0	4.8	4.4	4.4	0	4.1
28	3.6	5.0	4.4	0	0	0	5.0	4.7	4.4	4.6	0	4.2
29	4.1	5.0	4.4	0	---	0	1.7	4.7	4.4	4.5	0	5.2
30	4.1	5.0	4.7	0	---	0	0	4.8	4.4	4.6	3.5	6.2
31	4.1	---	4.4	0	---	0	---	4.9	---	4.4	5.1	---
TOTAL	152.2	208.5	143.6	20.3	79.3	50.8	127.7	65.9	134.0	137.1	80.5	132.5
MEAN	4.91	6.95	4.63	.65	2.83	1.64	4.26	2.13	4.47	4.42	2.60	4.42
MAX	5.2	13	5.0	4.7	5.0	5.2	5.3	4.9	5.0	4.6	5.1	6.2
MIN	3.6	4.4	4.1	0	0	0	0	0	4.4	4.3	0	4.1
AC-FT	302	414	285	40	157	101	253	131	266	272	160	263
CAL YR 1976	TOTAL	1576.36	MEAN 4.31	MAX 13	MIN 0	AC-FT 3130						
WTR YR 1977	TOTAL	1332.40	MEAN 3.65	MAX 13	MIN 0	AC-FT 2640						

## 11062000 LYTLE CREEK NEAR FONTANA, CA

LOCATION.--Lat 34°12'44", long 117°27'26", in SE¼NW¼SE¼ sec.36, T.2 N., R.6 W., San Bernardino County, on right bank 75 ft (23 m) upstream from highway bridge, 0.7 mi (1.1 km) upstream from right tributary, 2.3 mi (3.7 km) downstream from Lytle Creek conduit, and 8 mi (13 km) north of Fontana.

DRAINAGE AREA.--46.3 mi<sup>2</sup> (119.9 km<sup>2</sup>).

PERIOD OF RECORD.--October 1918 to current year. Combined records of Lytle Creek and diversions, October 1898 to December 1899, October 1904 to current year (published as "at mouth of canyon near Rialto" 1898-99, as "near San Bernardino" 1904-18, and as Lytle Creek and Fontana pipeline near Fontana 1919-31). Monthly discharge only for some periods published in WSP 1315-B.

GAGE.--Water-stage recorder on creek. Dual arch-culvert control since 1964. Water-stage recorders and sharp-crested weirs on conduit since June 3, 1949, and infiltration line since Oct. 1, 1971. Altitude of creek gage is 2,380 ft (725 m), from topographic map. October 1918 to Mar. 21, 1938, at site 1 mi (1.6 km) downstream at different datum. Mar. 22, 1938, to Nov. 20, 1963, at site 75 ft (23 m) downstream at datum 4.58 ft (1.396 m). Sharp-crested weirs at different datum.

REMARKS.--Records, creek only, poor; combined creek and diversion, fair. No regulation above station. Southern California Edison Co.'s Lytle Creek conduit diverts 2.3 mi (3.7 km) upstream for power development, and Fontana Union Water Co. collects water from an infiltration line upstream for irrigation. See schematic diagram of Santa Ana River basin. For records of combined discharge of Lytle Creek and diversions, see following page.

AVERAGE DISCHARGE.--Creek only: 59 years, 13.3 ft<sup>3</sup>/s (0.377 m<sup>3</sup>/s), 9,640 acre-ft/yr (11.9 hm<sup>3</sup>/yr). Combined creek and diversions: 74 years (water years 1899, 1905-77), 41.6 ft<sup>3</sup>/s (1.178 m<sup>3</sup>/s), 30,140 acre-ft/yr (37.2 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Creek only: Maximum discharge, 35,900 ft<sup>3</sup>/s (1,020 m<sup>3</sup>/s) Jan. 25, 1969, gage height, 15.0 ft (4.57 m), from floodmark, from rating extended above 570 ft<sup>3</sup>/s (16.1 m<sup>3</sup>/s) on basis of slope-area measurements at gage heights 10.78 ft (3.286 m) and 15.0 ft (4.57 m); no flow at times each year. Combined creek and diversions: Maximum discharge, 35,900 ft<sup>3</sup>/s (1,020 m<sup>3</sup>/s) Jan. 25, 1969; minimum daily discharge, 0.12 ft<sup>3</sup>/s (0.34 m<sup>3</sup>/s) June 21, 22, 1976.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 200 ft<sup>3</sup>/s (5.66 m<sup>3</sup>/s) and maximum (\*):

Date	Time	Creek Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)	Combined Creek and Diversions Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)
Jan. 3	0330	*305 8.64	4.16 1.268	*315 8.92
May 8	1330	276 7.81	2.33 0.710	286 8.10
Aug. 17	1400	269 7.62	2.31 0.704	278 7.87

Creek only: Minimum daily discharge, no flow for many months.

Combined creek and diversions: Minimum daily discharge, 13 ft<sup>3</sup>/s (0.37 m<sup>3</sup>/s) Aug. 13, Sept. 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16		0	12		0		0		0		
2	28		0	13		0		0		0		
3	17		0	60		0		0		0		
4	3.5		0	8.2		0		0		0		
5	1.9		0	1.7		0		0		0		
6	2.4		0	16		0		0		0		
7	4.3		0	37		0		0		0		
8	2.9		0	16		0		67		0		
9	2.7		0	1.2		0		64		0		
10	3.5		0	.18		0		10		0		
11	4.1		2.3	.06		0		5.0		0		
12	4.1		0	0		0		2.0		0		
13	2.1		0	0		0		1.2		0		
14	3.6		3.0	0		0		.66		0		
15	3.9		5.7	0		0		.42		0		
16	1.7		0	0		0		.28		0		
17	.90		2.0	0		0		.19		124		
18	.84		2.1	0		0		.15		125		
19	1.1		0	0		0		.11		13		
20	.91		0	.14		0		.09		3.0		
21	1.1		3.4	0		0		.08		1.0		
22	1.3		2.1	0		0		.07		.40		
23	1.0		2.9	0		0		.06		.23		
24	.39		2.0	.17		0		.05		.14		
25	1.1		0	0		1.2		.04		.09		
26	0		0	0		0		.03		.06		
27	3.7		0	0		0		.03		.04		
28	1.8		0	0		0		.02		.02		
29	.90		2.3	0	---	0		.02		.01		
30	0		12	0	---	0		.01		0		
31	0	---	13	0	---	0	---	.01	---	0	---	
TOTAL	116.74	0	52.8	165.65	0	1.2	0	151.52	0	266.99	0	
MEAN	3.77	0	1.70	5.34	0	.039	0	4.89	0	8.61	0	
MAX	28	0	13	60	0	1.2	0	67	0	125	0	
MIN	0	0	0	0	0	0	0	0	0	0	0	
AC-FT	232	0	105	329	0	2.4	0	301	0	530	0	

CAL YR 1976 TOTAL 1019.01 MEAN 2.78 MAX 85 MIN 0 AC-FT 2020  
WTR YR 1977 TOTAL 754.90 MEAN 2.07 MAX 125 MIN 0 AC-FT 1500



COMBINED DISCHARGE, IN CUBIC FEET PER SECOND, OF LYTLE CREEK,  
SOUTHERN CALIFORNIA EDISON CO.'S LYTLE CONDUIT, AND FONTANA UNION WATER  
CO.'S INFILTRATION LINE, NEAR FONTANA, CA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30	19	15	28	18	18	19	17	27	20	16	16
2	36	18	15	30	18	19	20	17	25	19	15	15
3	30	19	15	67	19	19	19	17	25	19	15	15
4	24	19	15	22	18	18	18	17	24	19	15	15
5	21	18	16	23	19	18	18	17	24	19	15	15
6	22	17	16	32	19	18	18	17	24	18	15	15
7	24	18	16	44	18	18	18	18	24	17	15	14
8	20	18	15	31	18	18	18	82	24	16	14	14
9	21	17	16	27	18	18	18	71	24	16	14	13
10	22	17	16	25	18	18	18	17	24	17	14	14
11	21	17	19	23	17	18	18	24	23	18	15	14
12	22	17	16	23	16	18	17	29	22	17	14	15
13	20	17	16	22	16	18	16	29	23	17	13	14
14	20	17	18	21	17	18	17	27	23	15	14	15
15	21	17	20	21	18	18	18	25	22	15	15	15
16	19	16	16	21	19	20	17	26	22	16	16	15
17	20	16	17	21	18	20	17	26	22	16	139	16
18	19	16	17	21	18	19	18	26	21	16	138	16
19	19	15	15	21	18	18	18	27	21	16	33	16
20	19	16	15	21	18	18	18	27	21	16	21	16
21	19	17	19	22	19	17	17	27	20	16	19	15
22	19	17	18	22	19	17	17	28	20	16	18	15
23	19	16	19	22	20	18	17	28	20	16	17	15
24	19	16	17	22	20	18	17	28	20	16	17	15
25	19	16	15	21	21	22	18	28	20	16	17	15
26	18	17	15	21	20	20	18	27	20	16	17	15
27	20	16	16	21	19	20	18	27	20	16	16	16
28	19	17	17	20	18	20	17	27	20	16	15	16
29	19	16	18	21	---	20	17	27	19	16	15	16
30	18	15	32	21	---	20	17	27	19	16	15	16
31	19	---	32	20	---	19	---	27	---	16	15	---
TOTAL	658	507	542	777	514	578	531	857	663	518	747	452
MEAN	21.2	16.9	17.5	25.1	18.4	18.6	17.7	27.6	22.1	16.7	24.1	15.1
MAX	36	19	32	67	21	22	20	82	27	20	139	16
MIN	18	15	15	20	16	17	16	17	19	15	13	13
AC-FT	1310	1010	1080	1540	1020	1150	1050	1700	1320	1030	1480	897
CAL YR 1976	TOTAL	7884	MEAN 21.5	MAX 92	MIN 12	AC-FT	15640					
WTR YR 1977	TOTAL	7344	MEAN 20.1	MAX 139	MIN 13	AC-FT	14570					

## SANTA ANA RIVER BASIN

11063500 LONE PINE CREEK NEAR KEENBROOK, CA

LOCATION.--Lat 34°15'59", long 117°27'47", in SE $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$  sec.12, T.2 N., R.6 W., San Bernardino County, on right bank 50 ft (15 m) upstream from the Atchison, Topeka, and Santa Fe Railway Co. bridge, 150 ft (46 m) upstream from mouth, and 1.1 mi (1.8 km) north of Keenbrook.

DRAINAGE AREA.--15.1 mi<sup>2</sup> (39.1 km<sup>2</sup>).

PERIOD OF RECORD.--December 1919 to September 1938, June 1949 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 2,605.92 ft (794.284 m) above mean sea level. Prior to Mar. 2, 1938, water-stage recorder (destroyed by flood) and Mar. 2 to Sept. 30, 1938, nonrecording gage at same site at datum 0.98 ft (0.299 m) higher.

REMARKS.--Records fair. No regulation or diversion above station. See schematic diagram of Santa Ana River basin.

AVERAGE DISCHARGE.--46 years (water years 1921-38, 1950-77) 1.38 ft<sup>3</sup>/s (0.039 m<sup>3</sup>/s), 1,000 acre-ft/yr (1.25 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,180 ft<sup>3</sup>/s (175 m<sup>3</sup>/s) Mar. 2, 1938, on basis of slope-area measurement of maximum flow; no flow Aug. 6-8, Sept. 29, 30, 1965.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 42 ft<sup>3</sup>/s (1.19 m<sup>3</sup>/s) Jan. 3, gage height, 2.11 ft (0.643 m), no peak above base of 80 ft<sup>3</sup>/s (2.27 m<sup>3</sup>/s); minimum daily, 0.15 ft<sup>3</sup>/s (0.004 m<sup>3</sup>/s) Apr. 3, 23, 24, July 17-20, 22, 24, 29-31.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.18	.19	.29	.42	.31	.29	.19	.29	.19	.17	.19	.21
2	.24	.19	.29	.70	.35	.29	.19	.29	.19	.17	.19	.21
3	.24	.19	.29	4.8	.35	.29	.15	.24	.19	.19	.19	.21
4	.24	.19	.29	.78	.35	.29	.19	.29	.19	.19	.24	.19
5	.19	.19	.35	1.5	.35	.29	.19	.29	.19	.19	.24	.20
6	.19	.22	.29	8.4	.35	.29	.19	.29	.19	.19	.24	.24
7	.16	.24	.29	5.3	.35	.29	.19	.29	.19	.19	.24	.23
8	.16	.26	.29	1.1	.35	.29	.19	3.3	.19	.19	.19	.24
9	.19	.24	.29	.88	.35	.29	.19	3.7	.19	.19	.19	.24
10	.19	.24	.29	.78	.35	.29	.19	.88	.19	.19	.19	.24
11	.21	.29	.29	.59	.35	.31	.19	.50	.19	.19	.19	.24
12	.19	.37	.29	.59	.35	.29	.19	.35	.19	.19	.19	.26
13	.19	.31	.29	.50	.35	.29	.19	.29	.19	.19	.19	.26
14	.19	.26	.29	.42	.35	.29	.19	.24	.19	.19	.19	.27
15	.19	.24	.35	.42	.35	.31	.24	.24	.19	.19	.19	.29
16	.19	.26	.35	.35	.29	.32	.24	.24	.18	.19	.19	.28
17	.20	.25	.35	.35	.29	.29	.24	.19	.19	.15	.49	.28
18	.24	.24	.35	.35	.29	.29	.19	.19	.19	.15	.25	.26
19	.22	.24	.35	.35	.29	.29	.19	.19	.19	.15	.23	.24
20	.23	.24	.35	.35	.29	.29	.19	.19	.18	.15	.23	.21
21	.23	.29	.35	.35	.29	.28	.19	.19	.18	.19	.23	.18
22	.20	.29	.35	.35	.29	.29	.19	.19	.18	.15	.23	.18
23	.20	.29	.35	.35	.29	.29	.15	.19	.18	.19	.22	.19
24	.19	.29	.35	.29	.29	.29	.15	.19	.18	.15	.18	.18
25	.19	.29	.35	.29	.29	.45	.19	.19	.17	.19	.19	.19
26	.19	.29	.35	.29	.29	.20	.24	.19	.18	.19	.19	.20
27	.18	.29	.34	.29	.29	.19	.24	.19	.18	.19	.19	.22
28	.19	.29	.35	.29	.29	.19	.24	.19	.18	.19	.17	.21
29	.19	.29	.35	.29	---	.19	.24	.19	.18	.15	.17	.22
30	.19	.29	.50	.29	---	.19	.24	.19	.17	.15	.19	.22
31	.19	---	.42	.29	---	.19	---	.19	---	.15	.20	---
TOTAL	6.17	7.75	10.28	32.30	8.98	8.62	5.98	14.57	5.56	5.49	6.60	6.79
MEAN	.20	.26	.33	1.04	.32	.28	.20	.47	.19	.18	.21	.23
MAX	.24	.37	.50	8.4	.35	.45	.24	3.7	.19	.19	.49	.29
MIN	.16	.19	.29	.29	.29	.19	.15	.19	.17	.15	.17	.18
AC-FT	12	15	20	64	18	17	12	29	11	11	13	13
CAL YR 1976	TOTAL	146.92	MEAN	.40	MAX	13	MIN	.11	AC-FT	291		
WTR YR 1977	TOTAL	119.09	MEAN	.33	MAX	8.4	MIN	.15	AC-FT	236		

LOCATION.--Lat 34°15'58", long 117°27'47", in NE¼NW¼ sec.13, T.2 N., R.6 W., San Bernardino County, on right bank 25 ft (8 m) downstream from confluence with Lone Pine Creek, 1.1 mi (1.8 km) north of Keenbrook.

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

GAGE.--Water-stage recorder. Altitude of gage is 2,600 ft (792 m), from topographic map.

REMARKS.--Records poor. No regulation or diversion above station. See schematic diagram of Santa Ana River basin.

AVERAGE DISCHARGE.--6 years, 7.51 ft<sup>3</sup>/s (0.213 m<sup>3</sup>/s), 5,440 acre-ft/yr (6.71 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,780 ft<sup>3</sup>/s (50.4 m<sup>3</sup>/s) Feb. 11, 1973, gage height, 13.50 ft (4.115 m); minimum daily, 2.2 ft<sup>3</sup>/s (0.062 m<sup>3</sup>/s) Dec. 16, 1975.

EXTREMES FOR CURRENT YEAR.--Maximum daily, 170 ft<sup>3</sup>/s (4.81 m<sup>3</sup>/s) May 8, maximum instantaneous occurred May 8, discharge, time and gage-height unknown. Minimum daily, 2.5 ft<sup>3</sup>/s (0.071 m<sup>3</sup>/s) on many days in July, August, and September.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.5	3.5	2.8	5.6	5.0	4.1	3.1	3.0	4.7	3.3	2.5	2.5
2	3.4	3.5	2.9	6.5	4.8	4.0	3.1	3.0	4.6	3.2	2.5	2.5
3	3.4	3.5	2.9	6.4	4.8	4.0	3.0	3.0	4.6	3.2	2.5	2.5
4	3.4	3.5	2.9	30	4.6	3.9	2.9	3.0	4.5	3.2	2.5	2.5
5	3.4	3.5	3.0	28	4.8	3.9	2.9	3.0	4.5	3.1	2.5	2.5
6	3.4	3.6	3.0	110	4.6	3.9	2.9	3.3	4.4	3.1	2.5	2.5
7	3.4	3.6	3.0	45	4.6	3.9	2.9	70	4.3	2.9	2.5	2.5
8	3.4	3.6	3.1	14	4.6	3.8	2.9	170	4.3	2.9	2.5	2.5
9	3.4	3.7	3.1	12	4.6	3.8	2.9	40	4.2	2.9	2.5	2.5
10	3.4	3.8	3.2	10	4.6	3.8	2.9	20	4.2	2.8	2.5	2.5
11	3.4	4.0	3.2	9.0	4.8	3.7	2.9	10	4.1	2.7	2.5	2.5
12	3.4	5.0	3.3	8.3	4.8	3.7	2.9	8.7	4.1	2.8	2.5	2.5
13	3.4	4.2	3.3	7.7	4.8	3.7	2.9	8.0	4.0	2.7	2.5	2.5
14	3.4	3.7	3.4	7.0	4.8	3.7	2.9	7.3	4.0	2.7	2.5	2.5
15	3.4	3.4	3.4	6.5	4.8	3.7	2.9	6.9	3.9	2.7	2.5	2.5
16	3.4	3.2	3.4	6.3	5.0	3.5	2.9	6.6	3.9	2.6	8.0	2.5
17	3.4	3.0	3.4	6.1	5.0	4.3	2.9	6.4	3.9	2.6	5.0	2.5
18	3.4	3.0	3.4	6.0	5.0	4.6	2.9	6.0	3.8	2.6	3.5	2.5
19	3.4	2.9	3.4	6.0	5.6	4.8	2.9	5.8	3.8	2.6	3.0	2.5
20	3.4	2.9	3.4	6.0	7.5	4.8	2.9	5.7	3.7	2.6	2.8	2.5
21	3.4	2.8	3.3	6.0	5.0	5.1	2.9	5.6	3.7	2.5	2.7	2.5
22	3.4	2.7	3.5	6.0	8.3	5.6	2.9	5.4	3.7	2.5	2.6	2.5
23	3.4	2.7	3.7	6.0	6.4	5.6	2.9	5.3	3.6	2.5	2.6	2.5
24	3.5	2.7	3.7	6.0	5.4	6.4	2.9	5.2	3.6	2.5	2.5	2.5
25	3.5	2.7	3.9	6.0	4.7	7.4	2.9	5.2	3.5	2.5	2.5	2.5
26	3.6	2.8	4.3	6.0	4.4	10	3.0	5.1	3.5	2.5	2.5	2.5
27	3.6	2.8	4.8	6.0	4.2	5.0	3.0	5.0	3.5	2.5	2.5	2.5
28	3.7	2.8	4.8	6.0	4.1	4.0	3.0	5.0	3.4	2.5	2.5	2.5
29	3.7	2.8	5.6	5.8	---	3.7	3.0	4.9	3.4	2.5	2.5	2.5
30	4.1	2.8	5.6	5.8	---	3.4	3.0	4.8	3.3	2.5	2.5	2.5
31	4.1	---	5.6	5.6	---	3.3	---	4.8	---	2.5	2.5	---
TOTAL	108.1	98.7	112.3	459.2	141.6	139.1	88.0	446.0	118.7	84.7	87.7	75.0
MEAN	3.49	3.29	3.62	14.8	5.06	4.49	2.93	14.4	3.96	2.73	2.83	2.50
MAX	4.1	5.0	5.6	110	8.3	10	3.1	170	4.7	3.3	8.0	2.5
MIN	3.4	2.7	2.8	5.6	4.1	3.3	2.9	3.0	3.3	2.5	2.5	2.5
AC-FT	214	196	223	911	281	276	175	885	235	168	174	149
CAL YR 1976	TOTAL	2465.8	MEAN 6.74	MAX 400	MIN 2.3	AC-FT 4890						
WTR YR 1977	TOTAL	1959.1	MEAN 5.37	MAX 170	MIN 2.5	AC-FT 3890						

## SANTA ANA RIVER BASIN

11063680 DEVIL CANYON CREEK NEAR SAN BERNARDINO, CA

LOCATION.--Lat 34°12'30", long 117°19'50", in Muscupiabe Grant, San Bernardino County, on left bank 0.6 mi (1.0 km) downstream from confluence of East and West Forks, and 7.5 mi (12.1 km) northwest of San Bernardino.

DRAINAGE AREA.--5.49 mi<sup>2</sup> (14.22 km<sup>2</sup>).

PERIOD OF RECORD.--November 1911 to September 1912, October 1913 to September 1914, December 1919 to current year. Monthly figures only for January 1914, published in WSP 1315-B.

GAGE.--Water-stage recorder on creek; flowmeter on diversion. Altitude of gage is 2,080 ft (634 m), from topographic map. Prior to December 1919, nonrecording gage at site 0.5 mi (0.8 km) downstream at different datum. December 1919 to July 1969, at site 0.4 mi (0.6 km) downstream at different datum. July 1969 to September 1972, present gage used as supplementary gage. Oct. 1, 1973, to Feb. 25, 1974, supplementary gage at site 0.5 mi (0.8 km) downstream at different datum.

REMARKS.--Records fair. No regulation above station. City of San Bernardino diverts above station for municipal supply. See schematic diagram of Santa Ana River basin.

COOPERATION.--Records of diversion were furnished by city of San Bernardino.

AVERAGE DISCHARGE.--Creek only: 58 years (water years 1914, 1921-77), 1.89 ft<sup>3</sup>/s (0.054 m<sup>3</sup>/s), 1,370 acre-ft/yr (1.69 hm<sup>3</sup>/yr).  
Combined creek and diversion.--44 years (water years 1914, 1935-77), 3.55 ft<sup>3</sup>/s (0.10 m<sup>3</sup>/s), 2,570 acre-ft/yr (3.17 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD (1913-14 AND SINCE 1919).--Maximum discharge, 3,720 ft<sup>3</sup>/s (105 m<sup>3</sup>/s) Jan. 25, 1969, gage height, 5.40 ft (1.646 m), site and datum then in use, on basis of slope-area measurement of maximum flow; no flow at times in some years.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 25 ft<sup>3</sup>/s (0.71 m<sup>3</sup>/s) and maximum (\*) based on extension of rating curve above 30 ft<sup>3</sup>/s (0.85 m<sup>3</sup>/s) on basis of slope-area measurement of peak flow:

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)		Gage height (ft) (m)	
Jan. 3	0300	*64	1.81	3.71	1.131
May 8	1545	46	1.30	3.51	1.070

Minimum daily discharge, no flow for several months.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.0	.87	0	.05	0	0	0	0			0	
2	1.5	.47	0	.92	0	2.3	0	0			0	
3	1.2	.53	0	12	0	2.7	0	0			0	
4	.82	.66	0	4.4	0	1.3	0	0			0	
5	.04	.96	0	3.3	0	0	0	0			0	
6	.05	1.1	0	5.2	0	0	0	0			0	
7	.30	1.2	0	4.5	0	0	0	0			0	
8	1.1	1.2	0	3.5	0	0	0	14			0	
9	1.0	1.1	0	3.3	0	.01	0	23			0	
10	.81	.94	0	3.3	0	0	0	14			0	
11	.89	.95	0	2.2	0	.03	0	5.2			0	
12	1.1	1.1	0	.74	0	0	0	2.8			0	
13	1.1	.86	0	.20	0	0	0	2.4			0	
14	1.1	.93	0	.08	.01	0	0	1.2			0	
15	.92	.76	0	.08	0	0	0	.36			0	
16	1.0	.83	0	.08	0	1.4	0	0			0	
17	.87	.71	0	.06	0	.87	0	0			9.3	
18	.94	.67	0	.05	0	0	0	0			2.8	
19	.87	.67	0	.04	0	0	0	0			0	
20	.74	.68	0	0	0	0	.13	0			0	
21	.80	.65	0	0	0	0	0	.19			0	
22	2.3	.65	0	0	.31	0	0	.21			1.0	
23	2.5	.47	0	0	.60	0	0	.93			6.7	
24	1.9	0	0	.02	1.8	0	0	6.0			7.8	
25	2.3	.21	0	0	1.2	1.6	0	2.7			2.9	
26	2.4	.52	0	0	0	1.0	0	2.3			0	
27	2.5	.30	0	0	0	0	0	1.2			0	
28	2.2	.08	0	.01	0	0	0	0			0	
29	1.2	.27	0	0	---	.01	0	0			0	
30	1.9	.14	2.6	0	---	0	0	0			0	
31	2.3	---	.72	0	---	0	---	0	---		0	---
TOTAL	39.65	20.48	3.32	44.03	3.92	11.22	.13	76.49	0	0	30.5	0
MEAN	1.28	.68	.11	1.42	.14	.36	.004	2.47	0	0	.98	0
MAX	2.5	1.2	2.6	12	1.8	2.7	.13	23	0	0	9.3	0
MIN	.04	0	0	0	0	0	0	0	0	0	0	0
AC-FT	79	41	6.6	87	7.8	22	.3	152	0	0	60	0
a	148	105	105	222	156	171	147	289	135	86	131	73
CAL YR 1976	TOTAL 777.58	MEAN 2.12	MAX 45	MIN 0	AC-FT 1540							
WTR YR 1977	TOTAL 229.74	MEAN .63	MAX 23	MIN 0	AC-FT 456							

a Combined discharge, in acre-feet, of Devil Canyon Creek and city of San Bernardino diversion.

## 11065000 LYTLE CREEK AT COLTON, CA

LOCATION.--Lat 34°04'44", long 117°18'17", in San Bernardino Grant, San Bernardino County, on right bank 400 ft (122 m) downstream from Colton Avenue, 1,930 ft (588 m) upstream from outlet end of channel, and 1.3 mi (2.1 km) northeast of Colton.

DRAINAGE AREA.--172 mi<sup>2</sup> (445 km<sup>2</sup>).

PERIOD OF RECORD.--October 1957 to current year.

GAGE.--Water-stage recorder. Datum of gage is 974.67 ft (297.079 m) above mean sea level (Corps of Engineers bench mark).

REMARKS.--Records fair. Flow partly regulated by Lytle Creek spreading grounds 3.2 mi (5.1 km) upstream. Diversions above station for irrigation, power development, domestic use, and ground-water replenishment. See schematic diagram of Santa Ana River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,800 ft<sup>3</sup>/s (476 m<sup>3</sup>/s) Jan. 25, 1969, gage height, 13.6 ft (4.15 m), from floodmarks, from rating curve extended above 4,200 ft<sup>3</sup>/s (119 m<sup>3</sup>/s) on basis of discharge for design flood at gage height 21.4 ft (6.52 m); no flow most of each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 77 ft<sup>3</sup>/s (2.18 m<sup>3</sup>/s) Nov. 12, gage height, 1.80 ft (0.549 m); no flow most of year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		0										
2		0										
3		0										
4		0										
5		0										
6		0										
7		0										
8		0										
9		0										
10		0										
11		0										
12		3.1										
13		0										
14		0										
15		0										
16		0										
17		0										
18		0										
19		0										
20		0										
21		0										
22		0										
23		0										
24		0										
25		0										
26		0										
27		0										
28		0										
29		0										
30		0										
31		---			---		---		---			---
TOTAL	0	3.1	0	6	0	0	0	0	0	0	0	0
MEAN	0	.10	0	0	0	0	0	0	0	0	0	0
MAX	0	3.1	0	0	0	0	0	0	0	0	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	6.1	0	0	0	0	0	0	0	0	0	0
CAL YR 1976	TOTAL	532.90	MEAN 1.46	MAX	184	MIN 0	AC-FT	1060				
WTR YR 1977	TOTAL	3.10	MEAN .009	MAX	3.1	MIN 0	AC-FT	6				

## SANTA ANA RIVER BASIN

11066440 SANTA ANA RIVER AT MISSION BOULEVARD, AT RIVERSIDE, CA

LOCATION.--Lat 33°59'28", long 117°23'36", in Jurupa Grant, Riverside County, near right bank on downstream end of pier of Mission Boulevard Bridge between Rubidoux and Riverside.

DRAINAGE AREA.--810 mi<sup>2</sup> (2,098 km<sup>2</sup>).

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

GAGE.--Water-stage recorder. Datum of gage is 758.52 ft (231.197 m) above mean sea level.

REMARKS.--Records poor. This is a project station the purpose of which is to record surface flow entering Riverside narrows from upper Santa Ana River drainage. See schematic diagram of Santa Ana River basin.

AVERAGE DISCHARGE.--6 years, 9.51 ft<sup>3</sup>/s (0.269 m<sup>3</sup>/s), 6,890 acre-ft/yr (8.50 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge 12,000 ft<sup>3</sup>/s (340 m<sup>3</sup>/s) Sept. 11, 1976, gage height, 12.60 ft (3.840 m), on basis of slope-conveyance measurement of maximum flow; no flow most of each year.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 500 ft<sup>3</sup>/s (14.2 m<sup>3</sup>/s) and maximum (\*), on basis of rating extended to slope-conveyance estimate of 12,000 ft<sup>3</sup>/s (340 m<sup>3</sup>/s).

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)	Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)
Nov. 12	1700	1090 30.9	9.42 2.871	Feb. 24	1430	1130 32.0	9.72 2.963
Dec. 30	1600	1470 41.6	9.56 2.914	Mar. 25	1600	1440 40.8	9.78 2.981
Jan. 3	0630	*4720 134	10.60 3.231	May 9	0300	4400 125	10.50 3.200
Jan. 6	0330	1390 39.4	9.77 2.978	Aug. 17	1900	1500 42.5	10.23 3.118

Minimum daily discharge, no flow most of year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	9.5	0	0		0			0	
2	0	0	0	4.0	0	0		0			0	
3	0	0	0	1190	0	0		0			0	
4	0	0	0	0	0	0		0			0	
5	0	0	.01	24	0	0		0			0	
6	0	0	.03	322	0	0		0			0	
7	0	0	0	49	0	0		0			0	
8	0	0	0	.20	0	0		426			0	
9	0	0	.01	.18	0	0		1640			0	
10	0	0	.39	.14	0	0		769			0	
11	0	0	2.1	.11	0	0		0			0	
12	0	185	.54	.13	0	0		0			0	
13	0	6.0	.46	.08	0	0		0			0	
14	0	3.7	1.0	0	0	0		0			0	
15	0	1.2	17	0	0	0		0			0	
16	0	.68	29	0	0	0		0			0	
17	0	.28	.50	0	0	0		0			205	
18	0	.02	.23	.22	.33	0		0			21	
19	0	.01	.05	.04	.30	0		0			0	
20	0	2.7	.19	.14	0	0		0			0	
21	0	3.2	1.1	.14	0	0		0			0	
22	2.7	.62	.65	.14	0	0		0			0	
23	25	1.7	2.0	.04	0	0		0			0	
24	.21	7.2	9.6	.20	111	0		0			0	
25	0	13	2.3	.13	0	408		0			0	
26	0	6.4	.39	.17	0	.98		0			0	
27	0	17	1.9	.23	0	0		0			0	
28	0	15	.76	.30	0	0		0			0	
29	0	12	3.5	.21	---	0		0			0	
30	0	3.1	309	.21	---	0		0			0	
31	0	---	49	0	---	0	---	0	---		0	---
TOTAL	27.91	278.81	431.71	1601.51	111.63	408.98	0	2835	0	0	226	0
MEAN	.90	9.29	13.9	51.7	3.99	13.2	0	91.5	0	0	7.29	0
MAX	25	185	309	1190	111	408	0	1640	0	0	205	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	55	553	856	3180	221	811	0	5620	0	0	448	0
CAL YR 1976	TOTAL	4464.89	MEAN 12.2	MAX 2450	MIN 0	AC-FT 8860						
WTR YR 1977	TOTAL	5921.55	MEAN 16.2	MAX 1640	MIN 0	AC-FT 11750						

## 11066460 SANTA ANA RIVER AT MWD CROSSING, NEAR ARLINGTON, CA

LOCATION.--Lat 33°58'04", long 117°26'46", in NE¼NE¼SW¼ sec. 30, T.2 S., R.5 W., Riverside County, on left bank 300 ft (91 m) upstream from MWD crossing, 0.7 mi (1.1 km) downstream from Union Pacific Railroad bridge, 1.2 mi (1.9 km) upstream from bridge on Van Buren Boulevard, and 3.3 mi (5.3 km) north of Arlington.  
DRAINAGE AREA.--854 mi<sup>2</sup> (2,112 km<sup>2</sup>).

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1970 to current year.

GAGE.--Water-stage recorder and concrete low-flow control. Altitude of gage is 685 ft (209 m), from topographic map.

REMARKS.--Records good below 100 ft<sup>3</sup>/s (2.83 m<sup>3</sup>/s) and poor above. Flow partly regulated by Big Bear Lake (station 11049000). Natural streamflow affected by ground-water withdrawals, diversions for irrigation, and return flows from irrigated areas. The records at this station are equivalent to those collected at 11066500 Santa Ana River at Riverside Narrows, near Arlington minus the flow at 11066480 Riverside Water Quality Control Plant at Riverside Narrows, near Arlington. See schematic diagram of Santa Ana River basin. AVERAGE DISCHARGE.--7 years (1970-77), 35.3 ft<sup>3</sup>/s (1,000 m<sup>3</sup>/s), 25,570 acre-ft/yr (31.5 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,520 ft<sup>3</sup>/s (270 m<sup>3</sup>/s) Sept. 11, 1976, gage height, 12.92 ft (3.938 m), from rating extended above 3600 ft<sup>3</sup>/s (102 m<sup>3</sup>/s) on basis of slope-area measurement of maximum flow; minimum daily, 16 ft<sup>3</sup>/s (0.45 m<sup>3</sup>/s) Aug. 18, 19, 1973.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge since at least 1927, 100,000 ft<sup>3</sup>/s (2,830 m<sup>3</sup>/s) Mar. 2, 1938, on basis of slope-area measurement at site 1.2 mi (1.9 km) downstream.

Flood of Jan. 22, 1862, 320,000 ft<sup>3</sup>/s (9,060 m<sup>3</sup>/s), by slope-conveyance measurement at site 8.1 mi (13.0 km) upstream. Stage at that site was 5 ft (2 m) higher than Mar. 2, 1938.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 500 ft<sup>3</sup>/s (14.2 m<sup>3</sup>/s) and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)		Gage height (ft) (m)		Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)		Gage height (ft) (m)	
Jan. 3	0845	*1640	46.4	9.38	2.859	May 9	0500	1400	39.6	9.15	2.789
Jan. 6	0815	554	15.7	8.03	2.448	Aug. 17	2030	870	24.6	8.58	2.615
May 8	2215	--	--	*9.85	3.002						

Minimum daily discharge, 20 ft<sup>3</sup>/s (0.57 m<sup>3</sup>/s) July 20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26	25	27	43	27	26	30	28	29	22	29	34
2	26	26	28	35	26	24	28	28	27	23	29	29
3	25	25	28	417	27	25	29	27	25	24	29	28
4	25	27	27	53	28	26	30	26	25	24	27	26
5	24	25	28	69	30	24	33	27	25	24	27	26
6	25	25	29	253	31	22	29	25	25	24	28	26
7	25	24	30	106	31	24	28	26	25	23	29	25
8	24	25	29	48	27	24	27	110	26	25	28	26
9	24	26	30	36	26	25	27	504	26	22	30	25
10	24	26	31	35	26	25	27	142	25	27	28	26
11	24	28	31	35	24	25	27	50	24	25	30	25
12	24	84	29	32	24	25	28	35	24	25	29	25
13	25	34	27	29	25	24	28	33	24	25	29	26
14	25	32	29	30	24	25	29	31	25	25	29	26
15	24	29	29	29	26	27	29	30	26	25	30	27
16	24	29	29	29	25	29	28	29	32	24	51	26
17	24	27	28	29	27	32	27	29	37	24	483	26
18	24	25	27	28	25	25	27	29	35	23	159	26
19	26	26	29	29	25	27	28	28	34	21	65	26
20	25	24	28	29	26	27	30	29	32	20	46	25
21	26	24	28	31	25	26	27	28	32	24	37	26
22	26	26	29	29	26	27	26	28	29	24	32	26
23	95	27	27	29	27	27	26	30	29	24	28	26
24	42	27	27	30	91	28	27	37	29	24	26	26
25	34	27	25	29	42	190	30	29	27	26	26	25
26	33	28	25	30	32	41	27	29	27	28	25	25
27	29	28	24	31	27	30	27	28	27	27	25	25
28	27	27	25	29	25	30	27	28	25	27	25	26
29	27	29	25	29	---	29	28	28	25	29	25	26
30	25	28	45	27	---	29	28	28	28	29	29	25
31	27	---	50	26	---	31	---	29	---	27	31	---
TOTAL	884	863	903	1714	825	999	842	1588	829	764	1544	785
MEAN	28.5	28.8	29.1	55.3	29.5	32.2	28.1	51.2	27.6	24.6	49.8	26.2
MAX	95	84	50	417	91	190	33	504	37	29	483	34
MIN	24	24	24	26	24	22	26	25	24	20	25	25
AC-FT	1750	1710	1790	3400	1640	1980	1670	3150	1640	1520	3060	1560
CAL YR 1976	TOTAL	14296	MEAN 39.1	MAX	2890	MIN 19	AC-FT	28360				
WTR YR 1977	TOTAL	12540	MEAN 34.4	MAX	504	MIN 20	AC-FT	24870				

11066460 SANTA ANA RIVER AT MWD CROSSING, NEAR ARLINGTON, CA--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1970 to current year.

CHEMICAL ANALYSES: Water years 1970 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1969 to current year.

INSTRUMENTATION.--Specific conductance recorder since October 1969.

REMARKS.--Periods of missing specific conductance record due to poor flow communication at probe or recorder malfunction.

EXTREMES FOR PERIOD OF RECORD.--

SPECIFIC CONDUCTANCE: Maximum recorded, 1,320 micromhos Nov. 4, 1969; minimum, 95 micromhos Nov. 27, 1970.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum recorded, 1,170 micromhos June 26; minimum recorded, 240 micromhos May 9.

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	TEMPER- ATURE (DEG C)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	DIS- SOLVED SOLIDS (TONS PER AC-FT)	DIS- SOLVED SOLIDS (TONS PER DAY)
OCT							
01...	0915	26	1080	28.3	669	.91	47.0
14...	0900	25	1080	18.4	703	.96	47.5
29...	0900	27	1110	14.2	715	.97	52.9
NOV							
12...	1515	82	711	18.5	438	.60	97.0
16...	1015	28	1110	19.6	705	.96	53.3
DEC							
01...	1045	26	1120	16.8	701	.95	49.6
23...	1030	28	1100	11.3	697	.95	52.7
JAN							
03...	1120	736	426	12.0	270	.37	537
04...	1320	41	1010	13.5	634	.86	70.2
18...	0900	28	1130	15.5	698	.95	52.8
FEB							
01...	1300	29	1100	18.0	690	.94	54.0
17...	1230	25	1100	21.8	696	.95	47.0
MAR							
02...	1400	25	1120	20.6	683	.93	46.1
15...	1000	26	1100	16.8	693	.94	48.6
31...	0945	29	1070	18.4	668	.91	52.3
APR							
01...	1030	29	1100	19.3	694	.94	54.3
13...	1145	25	1110	23.9	699	.95	47.2
MAY							
03...	1430	28	1070	25.5	670	.91	50.7
17...	1020	31	1110	21.5	708	.96	59.3
JUN							
02...	0940	30	1080	21.5	696	.95	56.4
16...	1000	29	1090	--	689	.94	53.9
JUL							
01...	0900	25	1100	21.7	696	.95	47.0
12...	0900	25	1090	19.5	698	.95	47.1
AUG							
02...	1000	28	1100	23.5	708	.96	53.5
23...	1300	28	1110	27.0	702	.95	53.6
SEP							
01...	1625	30	1060	23.0	673	.92	54.5
16...	1405	24	1120	24.0	736	1.00	47.9



11066460 SANTA ANA RIVER AT MWD CROSSING, NEAR ARLINGTON, CA--Continued

## SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	---	---	---	---	---	---	1140	1120	1130			
2	---	---	---	---	---	---	1150	1110	1130			
3	---	---	---	---	---	---	1150	1110	1140			
4	---	---	---	---	---	---	1150	1110	1140			
5	---	---	---	---	---	---	---	---	---			
6	---	---	---	---	---	---	---	---	---			
7	1140	1080	1110	---	---	---	---	---	---			
8	1130	1090	1110	---	---	---	---	---	---			
9	1140	1100	1110	---	---	---	---	---	---			
10	1140	1090	1120	---	---	---	---	---	---			
11	1120	1090	1110	1110	1070	1090	---	---	---			
12	1120	1090	1100	1110	1060	1090	---	---	---			
13	1110	1070	1090	1140	1080	1120	---	---	---			
14	1120	1070	1090	---	---	---	---	---	---			
15	1140	1090	1110	---	---	---	---	---	---			
16	1130	1100	1120	1130	1100	1120	---	---	---			
17	1140	1090	1120	1120	1040	1100	---	---	---			
18	1130	1100	1110	1130	1090	1110	---	---	---			
19	1130	1070	1090	1160	1100	1130	---	---	---			
20	1120	1080	1100	1160	1130	1150	---	---	---			
21	1110	1060	1080	1150	1120	1140	---	---	---			
22	1120	936	1100	1150	1120	1140	---	---	---			
23	966	554	623	1140	1110	1130	---	---	---			
24	854	700	760	1150	1110	1130	---	---	---			
25	980	854	901	1150	1120	1140	---	---	---			
26	---	---	---	1120	1100	1110	---	---	---			
27	---	---	---	1140	1080	1110	---	---	---			
28	---	---	---	1150	1100	1120	---	---	---			
29	---	---	---	1130	1090	1110	---	---	---			
30	---	---	---	1120	1090	1110	---	---	---			
31	---	---	---	---	---	---	---	---	---			
MONTH	---	---	---	---	---	---	---	---	---			

DAY	FEBRUARY			MARCH			APRIL			MAY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	---	---	---	1140	1080	1110	1130	1060	1090	1120	1090	1110
2	---	---	---	1150	1100	1120	1100	1080	1100	1120	1090	1100
3	---	---	---	1150	1110	1120	1090	1070	1080	1110	1070	1090
4	---	---	---	1140	1090	1110	1100	1060	1080	1110	1080	1090
5	---	---	---	1120	1070	1090	1100	1040	1070	1100	1060	1080
6	---	---	---	1150	1080	1110	1120	1060	1100	1110	1090	1100
7	---	---	---	1150	1100	1120	1130	1090	1110	1110	1080	1100
8	---	---	---	1120	1110	1120	1130	1090	1110	1100	248	732
9	---	---	---	1130	1090	1100	1130	1100	1120	510	240	363
10	---	---	---	1130	1090	1110	1130	1110	1120	1030	340	789
11	---	---	---	1130	1090	1120	1110	1080	1100	1090	1040	1060
12	---	---	---	1140	1090	1120	1110	1070	1090	1080	1060	1070
13	---	---	---	1140	1070	1110	1120	1100	1110	1100	1060	1090
14	1140	1110	1130	1130	1070	1110	1110	1070	1090	1110	1080	1100
15	1130	1100	1120	1130	1090	1110	1120	1080	1100	1130	1100	1120
16	1140	1100	1120	1100	430	1010	1130	1090	1110	1130	1110	1120
17	1150	1100	1130	1110	524	960	1130	1090	1110	1140	1110	1120
18	1150	1120	1130	1140	1080	1110	1120	1100	1110	1130	1100	1110
19	1150	1110	1130	1120	1100	1110	1120	1090	1100	1120	1080	1100
20	1150	1120	1140	1130	1090	1110	1120	1080	1100	1120	1090	1110
21	1160	1120	1140	1120	1100	1110	1120	1090	1110	1110	1080	1100
22	---	---	---	---	---	---	---	---	---	1110	1080	1100
23	---	---	---	1100	1080	1090	---	---	---	1090	934	1060
24	1120	341	766	1100	1070	1080	---	---	---	1060	706	960
25	988	728	808	1060	279	481	---	---	---	1090	1050	1070
26	1130	635	888	1090	607	983	---	---	---	1090	1040	1070
27	1140	1080	1110	1100	1080	1090	---	---	---	1100	1050	1080
28	1120	1090	1110	1110	1050	1100	---	---	---	1110	1050	1080
29	---	---	---	1110	1090	1100	1130	1100	1110	1120	1050	1080
30	---	---	---	1100	1060	1080	1130	1080	1090	---	---	---
31	---	---	---	1100	843	1050	---	---	---	---	---	---
MONTH	---	---	---	1150	279	1070	---	---	---	1140	240	1040



## 11066480 RIVERSIDE WATER QUALITY CONTROL PLANT AT RIVERSIDE NARROWS, NEAR ARLINGTON, CA

LOCATION.--Lat 33°57'53", long 117°27'26", in SE¼NE¼SE¼ sec.25, T.2 S., R.6 W., Riverside County, at effluent end of chlorine contact chambers, 0.4 mi (0.6 km) upstream from Van Buren Boulevard, and 3.1 mi (5.0 km) northwest of Arlington.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1947 to current year. Prior to May 25, 1967, published as "Sheehan ditch."

GAGE.--Water-stage recorders and concrete controls for plants Nos. 1 and 2. Altitude of gages are 690 ft (210 m), from topographic map.

REMARKS.--Records fair. Discharge reported is total effluent from city of Riverside's Water Quality Control Plants Nos. 1 and 2, released to river 1.0 mi (1.6 km) downstream from Santa Ana River at MWD crossing (station 11066460).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 33 ft<sup>3</sup>/s (0.93 m<sup>3</sup>/s) Aug. 17, 1977; minimum daily, 17 ft<sup>3</sup>/s (0.48 m<sup>3</sup>/s) May 11, June 8, 1969.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27	27	27	23	27	27	25	27	29	26	26	26
2	26	27	27	25	27	26	23	30	29	23	27	26
3	25	27	27	29	27	27	23	29	26	22	26	23
4	28	27	27	28	26	25	26	25	25	22	26	22
5	29	27	25	28	25	25	25	26	22	25	26	24
6	27	25	25	30	24	22	27	25	26	26	24	27
7	28	25	27	28	27	27	27	23	25	25	23	26
8	27	27	27	25	27	26	25	23	25	26	26	27
9	25	27	27	24	27	27	24	27	26	24	26	26
10	24	27	27	28	27	27	22	30	25	23	26	25
11	28	27	27	28	27	25	25	30	24	26	26	24
12	28	27	27	28	25	25	25	29	22	25	26	28
13	28	25	25	28	24	23	25	29	26	25	24	26
14	27	24	24	27	27	25	25	28	25	26	23	26
15	27	27	27	26	27	25	25	27	25	25	26	26
16	25	27	26	24	27	25	22	29	26	24	26	26
17	25	27	26	28	27	27	22	29	26	22	33	24
18	28	27	26	27	26	26	26	29	23	25	27	24
19	27	27	27	28	25	24	25	29	22	25	28	26
20	27	25	25	27	23	23	26	28	26	26	26	26
21	27	25	25	26	27	26	26	29	26	26	24	25
22	27	27	27	24	26	25	26	27	26	26	27	26
23	26	27	27	24	26	25	25	29	26	25	26	26
24	25	27	25	26	27	25	25	29	26	23	27	25
25	27	24	21	26	27	27	29	29	23	26	26	24
26	27	23	23	26	26	24	29	29	22	26	26	27
27	27	23	24	27	24	23	31	29	24	26	24	26
28	27	24	24	27	27	26	30	25	25	26	23	26
29	27	27	23	25	---	25	29	24	28	26	28	26
30	25	27	24	24	---	25	30	25	27	24	27	27
31	23	---	25	27	---	25	---	29	---	22	27	---
TOTAL	824	783	794	821	732	783	773	856	756	767	806	766
MEAN	26.6	26.1	25.6	26.5	26.1	25.3	25.8	27.6	25.2	24.7	26.0	25.5
MAX	29	27	27	30	27	27	31	30	29	26	33	28
MIN	23	23	21	23	23	22	22	23	22	22	23	22
AC-FT	1630	1550	1570	1630	1450	1550	1530	1700	1500	1520	1600	1520
CAL YR 1976	TOTAL	9894	MEAN 27.0	MAX 32	MIN 21	AC-FT	19620					
WTR YR 1977	TOTAL	9461	MEAN 25.9	MAX 33	MIN 21	AC-FT	18770					

## SANTA ANA RIVER BASIN

11066480 RIVERSIDE WATER QUALITY CONTROL PLANT AT RIVERSIDE NARROWS, NEAR ARLINGTON, CA--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1970 to current year.

CHEMICAL ANALYSES: Water year 1970 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1969 to current year.

INSTRUMENTATION.--Specific conductance recorder since October 1969.

EXTREMES FOR PERIOD OF RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 1,740 micromhos Oct. 29, 1971; minimum, 672 micromhos May 5, 1971.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 1,210 micromhos Sept. 10; minimum, 819 micromhos May 9.

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	TEMPER- ATURE (DEG C)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	DIS- SOLVED SOLIDS (TONS PER AC-FT)	DIS- SOLVED SOLIDS (TONS PER DAY)
OCT							
01...	1000	38	1040	26.2	625	.85	64.1
14...	0920	32	1070	25.5	633	.86	54.7
NOV							
01...	1000	37	1070	24.0	672	.91	67.1
16...	1100	37	1060	22.6	643	.87	64.2
DEC							
01...	1145	33	1090	21.5	656	.89	58.4
23...	1045	35	1160	19.9	646	.88	61.0
JAN							
04...	1415	33	1010	21.2	514	.70	46.2
18...	1000	37	1060	20.0	630	.86	63.4
FEB							
01...	1330	33	1100	21.2	638	.87	56.8
17...	1330	34	1050	23.3	622	.85	57.1
MAR							
02...	1420	31	1050	21.7	592	.81	49.6
15...	1200	35	1090	21.5	651	.89	61.5
APR							
01...	0900	31	1080	20.7	637	.87	53.3
13...	1200	33	1080	24.5	650	.88	57.9
MAY							
03...	1230	33	937	25.6	555	.75	49.5
17...	1140	34	1040	24.5	626	.85	57.5
JUN							
02...	1050	33	1030	26.0	628	.85	56.0
16...	1030	35	1050	--	618	.84	58.4
JUL							
01...	0945	35	1130	26.8	672	.91	63.5
12...	1030	31	1090	26.5	674	.92	56.4
AUG							
02...	1130	35	1040	29.5	620	.84	58.6
23...	1325	34	974	22.8	590	.80	54.3
SEP							
01...	1515	32	983	24.0	590	.80	51.0
16...	1430	31	1100	29.5	658	.89	55.1

11066480 RIVERSIDE WATER QUALITY CONTROL PLANT AT RIVERSIDE NARROWS, NEAR ARLINGTON, CA--Continued

## SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	1090	1020	1060	1160	1060	1100	1180	1090	1120	1070	1020	1050
2	1070	994	1040	1160	1140	1150	1180	1120	1160	1040	977	1010
3	1030	962	995	1140	1100	1120	1130	1070	1110	1030	939	995
4	---	---	---	1160	1070	1110	1110	1040	1070	1050	1010	1030
5	---	---	---	1170	1120	1140	1050	989	1030	1050	997	1030
6	1100	998	1040	1120	1050	1080	1060	995	1030	1010	948	990
7	1110	1010	1070	1050	987	1030	1130	1010	1060	1040	940	981
8	1110	1050	1080	1080	986	1030	1130	1090	1110	1070	1020	1040
9	1040	1010	1030	1110	1030	1070	1150	1090	1120	1060	985	1030
10	1040	972	1020	1140	1070	1110	1150	1080	1120	1090	993	1030
11	1060	985	1030	1130	1080	1110	1130	1040	1070	1150	1050	1080
12	1100	1020	1060	1120	1070	1100	1050	994	1040	1160	1080	1120
13	1090	1000	1050	1120	1040	1090	1120	1030	1070	1160	1070	1100
14	1080	1020	1060	1040	976	1010	1120	1060	1090	1190	1090	1140
15	1070	1000	1040	1050	952	1000	1140	1060	1100	1120	1060	1090
16	1060	1000	1040	1110	1060	1070	1150	1080	1110	1070	997	1030
17	1040	972	1010	1140	1070	1100	1170	1090	1130	1100	982	1040
18	1080	988	1040	1170	1110	1140	1150	1060	1090	1110	1050	1080
19	1130	1080	1100	1170	1080	1110	1060	991	1030	1140	1070	1100
20	1090	1040	1070	1080	1020	1050	1100	1040	1070	1160	1140	1150
21	1080	1030	1060	1080	991	1040	1150	1070	1100	1150	1130	1140
22	1130	1060	1090	1090	999	1050	1180	1090	1130	1120	1010	1070
23	1150	1090	1120	1100	1030	1080	1190	1130	1160	1110	1000	1060
24	1080	1000	1040	1090	1020	1070	1160	1110	1130	1160	1060	1100
25	1050	977	1030	1080	1050	1070	1110	1010	1060	1130	1100	1120
26	1140	1040	1070	1080	999	1040	1060	983	1020	1130	1070	1100
27	1130	1070	1100	1080	1040	1070	1120	1020	1070	1120	1070	1100
28	1110	1000	1050	1060	1000	1030	1180	1090	1130	1150	1060	1110
29	1120	1060	1100	1090	989	1030	1170	1130	1150	1150	1090	1120
30	1100	1020	1060	1100	1040	1080	1160	1100	1130	1120	1040	1090
31	1100	1000	1050	---	---	---	1130	1080	1110	1120	1030	1080
MONTH	1150	962	1060	1170	952	1080	1190	983	1090	1190	939	1070
DAY	FEBRUARY			MARCH			APRIL			MAY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	1180	1100	1120	1100	1050	1070	1080	1040	1070	991	909	958
2	1180	1110	1140	1100	1050	1080	1080	1020	1050	979	881	933
3	1110	1030	1080	1090	1050	1070	1030	955	995	1030	931	975
4	1100	1060	1080	1070	1040	1050	1020	937	983	1030	973	1010
5	1110	1050	1080	1050	1030	1040	1100	1040	1080	1030	965	997
6	1060	1000	1040	1040	980	1020	1090	1030	1070	1020	927	970
7	1150	1040	1080	1090	979	1040	1080	1020	1050	1050	949	1000
8	1180	1090	1130	1130	1050	1090	1110	1060	1090	951	871	914
9	1180	1110	1150	1150	1110	1130	1080	1030	1060	911	819	866
10	1190	1150	1160	1120	1080	1100	1050	969	1000	963	871	911
11	1160	1110	1140	1120	1040	1080	1040	967	1000	1020	951	983
12	1140	1060	1110	1080	1020	1050	1090	1030	1060	1070	991	1040
13	1090	996	1050	1080	1020	1050	1120	1080	1100	1070	993	1040
14	1100	982	1040	1090	1000	1050	1130	1070	1100	1090	1020	1060
15	1110	1040	1080	1140	1090	1120	1070	1020	1050	1020	939	981
16	1130	1060	1100	1160	1120	1140	1070	1030	1050	1060	943	996
17	1100	1050	1080	1120	1080	1090	1070	992	1040	1110	1030	1070
18	1110	1050	1080	1120	1060	1100	1080	1000	1050	1120	1030	1070
19	1100	1040	1070	1120	1040	1080	1150	1050	1100	1090	1010	1050
20	1050	980	1030	1080	1010	1050	1130	1070	1090	1100	1020	1060
21	1070	987	1040	1110	1010	1070	1080	1010	1040	1060	985	1030
22	1120	1020	1060	1110	1030	1080	1080	1010	1060	1000	941	980
23	1130	1070	1100	1100	1010	1050	1080	1010	1050	1030	949	987
24	1150	1080	1120	1050	989	1030	1040	974	1010	1050	991	1030
25	1090	1040	1060	1060	1000	1030	1090	981	1030	1030	979	1000
26	1080	1040	1060	1050	986	1030	1130	1060	1100	1090	1000	1050
27	1040	956	1000	1040	957	1000	1120	1030	1070	1140	1060	1100
28	1050	956	1000	1060	946	1000	1060	1010	1030	1110	1040	1060
29	---	---	---	1120	1060	1090	1060	991	1020	1040	955	1010
30	---	---	---	1090	1040	1070	1040	995	1010	1040	963	1010
31	---	---	---	1110	1050	1080	---	---	---	993	895	963
MONTH	1190	956	1080	1160	946	1070	1150	937	1050	1140	819	1000



## 11067890 SANTA ANA RIVER AT PRADO PARK, NEAR CORONA, CA

LOCATION.--Lat 33°55'42", long 117°35'44", in Jurupa Grant, Riverside County, in Prado Park on right bank 0.4 mi (0.6 km) upstream from Auburndale Bridge, and 4.1 mi (6.6 km) northwest of Corona.

DRAINAGE AREA.--1,010 mi<sup>2</sup> (2,616 km<sup>2</sup>).

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1971 to current year. Records May 1930 to November 1966 (irrigation seasons only), October 1966 to September 1968 at site 0.4 mi (0.6 km) downstream (at Auburndale Bridge, station 11068000), equivalent if diversion to Durkee ditch added.

GAGE.--Water-stage recorder. Altitude of gage is 560 ft (171 m), from topographic map.

REMARKS.--Records good below 100 ft<sup>3</sup>/s (2.83 m<sup>3</sup>/s) and poor above. Flow partly regulated by Big Bear Lake (station 11049000). Natural streamflow affected by ground-water withdrawals, diversions for irrigation, and return flows from irrigated areas. See schematic diagram of Santa Ana River basin.

AVERAGE DISCHARGE.--6 years, 55.5 ft<sup>3</sup>/s (1.572 m<sup>3</sup>/s), 40,210 acre-ft/yr (49.6 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, about 5,400 ft<sup>3</sup>/s (153 m<sup>3</sup>/s) Feb. 11, 1973, by flood routing; minimum daily, 10 ft<sup>3</sup>/s (0.28 m<sup>3</sup>/s) Aug. 7, Sept. 23, 1971.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 500 ft<sup>3</sup>/s (14.2 m<sup>3</sup>/s) and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)	Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)
Oct. 23	0700	526 14.9	4.02 1.225	May 9	0900	1150 32.6	5.03 1.533
Jan. 3	1030	*1710 48.4	5.45 1.661	Aug. 17	1430	1470 41.6	5.28 1.609
Feb. 24	1830	1000 28.3	4.90 1.494				

Minimum daily discharge, 22 ft<sup>3</sup>/s (0.62 m<sup>3</sup>/s) July 9-11, 17, Aug. 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	64	40	55	135	52	49	53	44	55	36	27	42
2	55	40	53	92	52	42	49	44	61	31	29	41
3	57	40	55	588	45	38	52	47	55	25	29	38
4	55	37	57	137	45	38	53	44	49	23	27	37
5	53	40	53	178	49	40	55	44	40	25	25	34
6	52	42	53	420	45	36	52	44	49	26	23	36
7	52	41	55	216	50	38	49	44	59	25	22	34
8	50	42	55	98	49	38	47	106	62	28	24	32
9	49	47	55	88	49	33	44	454	61	22	26	28
10	49	52	57	81	53	31	47	297	66	22	26	27
11	52	52	55	77	57	32	47	86	59	22	26	29
12	55	97	52	62	53	33	47	68	55	25	27	31
13	61	90	55	66	50	32	50	64	55	26	23	31
14	59	62	53	72	53	32	53	59	52	25	23	32
15	61	55	53	59	53	32	57	55	50	27	24	34
16	49	53	55	53	52	41	53	57	50	26	31	32
17	53	50	52	53	50	53	59	47	41	22	671	32
18	61	50	52	50	52	41	59	49	34	26	374	29
19	66	49	52	53	52	37	53	49	32	29	105	32
20	72	45	55	55	52	36	57	50	38	31	77	33
21	64	45	61	61	52	36	55	52	44	29	50	36
22	61	53	64	55	57	37	55	53	42	26	38	36
23	135	55	64	55	64	37	50	55	44	24	37	40
24	70	55	68	62	216	38	41	74	44	24	38	37
25	62	49	62	55	115	226	47	66	45	24	34	31
26	52	50	59	59	70	148	49	64	40	24	34	36
27	49	55	64	52	62	88	49	64	44	26	34	37
28	49	61	64	53	62	72	45	61	49	29	31	38
29	47	66	68	47	---	62	44	50	42	31	36	41
30	45	66	99	47	---	59	45	45	38	29	45	40
31	41	---	150	49	---	57	---	49	---	26	45	---
TOTAL	1800	1579	1905	3228	1711	1612	1516	2385	1455	814	2061	1036
MEAN	58.1	52.6	61.5	104	61.1	52.0	50.5	76.9	48.5	26.3	66.5	34.5
MAX	135	97	150	588	216	226	59	454	66	36	671	42
MIN	41	37	52	47	45	31	41	44	32	22	22	27
AC-FT	3570	3130	3780	6400	3390	3200	3010	4730	2890	1610	4090	2050
CAL YR 1976	TOTAL	21192	MEAN 57.9	MAX 1530	MIN 16	AC-FT 42030						
WTR YR 1977	TOTAL	21102	MEAN 57.8	MAX 671	MIN 22	AC-FT 41860						





11067890 SANTA ANA RIVER AT PRADO PARK NEAR CORONA, CA--Continued

## SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	OCTOBER			NOVEMBER			DECEMBER		
	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	64	390	67	40	240	26	55	200	30
2	55	390	58	40	240	26	53	220	31
3	57	395	61	40	225	24	55	200	30
4	55	400	59	37	205	20	57	175	27
5	53	390	56	40	180	19	53	165	24
6	52	375	53	42	155	18	53	145	21
7	52	350	49	41	145	16	55	135	20
8	50	330	45	42	150	17	55	130	19
9	49	315	42	47	150	19	55	220	33
10	49	300	40	52	150	21	57	310	48
11	52	285	40	52	150	21	55	290	43
12	55	270	40	97	1110	433	52	250	35
13	61	270	44	90	1590	466	55	230	34
14	59	270	43	62	360	60	53	190	27
15	61	275	45	55	315	47	53	150	21
16	49	250	33	53	305	44	55	145	22
17	53	640	92	50	290	39	52	150	21
18	61	530	87	50	230	31	52	170	24
19	66	410	73	49	195	26	52	195	27
20	72	320	62	45	180	22	55	210	31
21	64	265	46	45	170	21	61	210	35
22	61	230	38	53	160	23	64	210	36
23	135	2710	1720	55	150	22	64	185	32
24	70	1500	283	55	140	21	68	160	29
25	62	1100	184	49	140	19	62	145	24
26	52	400	56	50	140	19	59	135	22
27	49	200	26	55	140	21	64	135	23
28	49	240	32	61	150	25	64	160	28
29	47	250	32	66	170	30	68	175	32
30	45	250	30	66	180	32	99	784	385
31	41	245	27	---	---	---	150	1750	938
TOTAL	1800	---	3563	1579	---	1628	1905	---	2152
DAY	JANUARY			FEBRUARY			MARCH		
	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	135	1630	827	52	225	32	49	585	77
2	92	256	65	52	255	36	42	550	62
3	588	4550	11500	45	280	34	38	475	49
4	137	1770	766	45	305	37	38	400	41
5	178	2340	1620	49	320	42	40	330	36
6	420	6500	7960	45	310	38	36	265	26
7	216	3040	1810	50	275	37	38	215	22
8	98	2400	635	49	245	32	38	205	21
9	88	2200	523	49	220	29	33	205	18
10	81	1100	241	53	205	29	31	190	16
11	77	800	166	57	200	31	32	165	14
12	62	600	100	53	185	26	33	130	12
13	66	360	64	50	180	24	32	115	9.9
14	72	315	61	53	165	24	32	110	9.5
15	59	320	51	53	160	23	32	125	11
16	53	325	47	52	150	21	41	165	18
17	53	330	47	50	145	20	53	470	73
18	50	340	46	52	150	21	41	310	34
19	53	350	50	52	160	22	37	285	28
20	55	365	54	52	165	23	36	285	28
21	61	395	65	52	160	22	36	285	28
22	55	410	61	57	200	31	37	275	27
23	55	410	61	64	315	54	37	245	24
24	62	410	69	216	2250	3200	38	190	19
25	55	415	62	115	3440	1300	226	5450	4120
26	59	365	58	70	770	146	148	1900	925
27	52	325	46	62	705	118	88	700	166
28	53	300	43	62	635	106	72	480	93
29	47	260	33	---	---	---	62	380	64
30	47	235	30	---	---	---	59	345	55
31	49	210	28	---	---	---	57	335	52
TOTAL	3228	---	27189	1711	---	5558	1612	---	6178.4

11067890 SANTA ANA RIVER AT PRADO PARK NEAR CORONA, CA--Continued  
 SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	APRIL			MAY			JUNE		
	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	53	335	48	44	140	17	55	110	16
2	49	325	43	44	160	19	61	100	16
3	52	315	44	47	140	18	55	100	15
4	53	305	44	44	120	14	49	100	13
5	55	295	44	44	110	13	40	95	10
6	52	270	38	44	100	12	49	95	13
7	49	250	33	44	100	12	59	90	14
8	47	225	29	106	648	455	62	90	15
9	44	200	24	454	8590	12900	61	85	14
10	47	165	21	297	5310	7100	66	85	15
11	47	135	17	86	385	89	59	85	14
12	47	110	14	68	335	62	55	85	13
13	50	115	16	64	310	54	55	85	13
14	53	150	21	59	285	45	52	85	12
15	57	150	23	55	255	38	50	85	11
16	53	120	17	57	240	37	50	85	11
17	59	105	17	47	190	24	41	85	9.4
18	59	95	15	49	145	19	34	85	7.8
19	53	90	13	49	155	21	32	85	7.3
20	57	90	14	50	195	26	38	85	8.7
21	55	90	13	52	215	30	44	85	10
22	55	100	15	53	215	31	42	85	9.6
23	50	100	13	55	205	30	44	85	10
24	41	100	11	74	244	52	44	85	10
25	47	110	14	66	215	38	45	85	10
26	49	120	16	64	195	34	40	85	9.2
27	49	120	16	64	205	35	44	85	10
28	45	120	15	61	205	34	49	85	11
29	44	120	14	50	195	26	42	85	9.6
30	45	120	15	45	170	21	38	85	8.7
31	---	---	---	49	140	19	---	---	---
TOTAL	1516	---	677	2385	---	21325	1455	---	346.3
DAY	JULY			AUGUST			SEPTEMBER		
	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	36	85	8.3	27	50	3.6	42	80	9.1
2	31	80	6.7	29	75	5.9	41	75	8.3
3	25	80	5.4	29	100	7.8	38	75	7.7
4	23	75	4.7	27	90	6.6	37	70	7.0
5	25	70	4.7	25	80	5.4	34	70	6.4
6	26	65	4.6	23	70	4.3	36	65	6.3
7	25	60	4.1	22	60	3.6	34	70	6.4
8	28	60	4.5	24	55	3.6	32	70	6.0
9	22	55	3.3	26	55	3.9	28	75	5.7
10	22	50	3.0	26	55	3.9	27	80	5.8
11	22	50	3.0	26	55	3.9	29	90	7.0
12	25	45	3.0	27	55	4.0	31	95	8.0
13	26	55	3.9	23	55	3.4	31	100	8.4
14	25	65	4.4	23	55	3.4	32	110	9.5
15	27	75	5.5	24	55	3.6	34	105	9.6
16	26	75	5.3	31	55	4.6	32	100	8.6
17	22	70	4.2	671	1700	4480	32	100	8.6
18	26	70	4.9	374	1300	1900	29	90	7.0
19	29	65	5.1	105	140	40	32	85	7.3
20	31	65	5.4	77	110	23	33	80	7.1
21	29	65	5.1	50	100	13	36	80	7.8
22	26	65	4.6	38	85	8.7	36	85	8.3
23	24	65	4.2	37	75	7.5	40	85	9.2
24	24	65	4.2	38	65	6.7	37	85	8.5
25	24	65	4.2	34	80	7.3	31	85	7.1
26	24	60	3.9	34	95	8.7	36	85	8.3
27	26	60	4.2	34	95	8.7	37	85	8.5
28	29	60	4.7	31	90	7.5	38	85	8.7
29	31	55	4.6	36	90	8.7	41	85	9.4
30	29	55	4.3	45	85	10	40	85	9.2
31	26	55	3.9	45	85	10	---	---	---
TOTAL	814	---	141.9	2061	---	6611.3	1036	---	234.8
YEAR	21102.0		75604.7						

11067890 SANTA ANA RIVER AT PRADO PARK NEAR CORONA, CA--Continued

## PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	TEMPER- ATURE (DEG C)	INSTAN- TANEOUS DIS- CHARGE (CFS)	SUS- PEN- DED SED- IMENT DIS- CHARGE (MG/L)	SUS- PEN- DED SED- IMENT DIS- CHARGE (T/DAY)	SUS. SED. FALL DIAM. % FINER THAN .002 MM	SUS. SED. FALL DIAM. % FINER THAN .004 MM	SUS. SED. FALL DIAM. % FINER THAN .008 MM	SUS. SED. FALL DIAM. % FINER THAN .016 MM	SUS. SED. FALL DIAM. % FINER THAN .031 MM	SUS. SED. FALL DIAM. % FINER THAN .062 MM
OCT											
16...	1130	19.5	30	65	5.3	--	--	--	--	--	--
18...	1645	23.0	66	503	90	27	38	52	68	77	--
25...	1645	21.5	57	1050	162	37	52	70	84	92	--
DEC											
22...	1630	15.0	47	213	27	--	--	--	--	--	--
JAN											
03...	1000	11.5	1148	9190	28500	26	38	54	73	85	90
06...	1000	--	864	13900	32400	11	14	17	26	34	--
06...	1530	10.5	389	5610	5890	24	30	41	55	71	80
07...	1130	11.0	275	3090	2290	19	28	38	50	59	66
07...	1330	12.5	184	2180	1080	19	27	38	48	60	73
07...	1700	12.5	204	2200	1210	19	31	37	45	61	64
08...	1430	15.5	95	3130	803	5	7	9	11	13	--
FEB											
24...	1700	15.0	356	787	756	3	5	9	13	20	--
MAY											
09...	1315	15.5	423	9980	11400	40	56	74	87	91	--
AUG											
17...	0845	24.5	566	877	1340	14	20	26	33	38	--
17...	1200	24.5	825	1500	3340	11	17	22	27	32	37
24...	1020	23.0	38	64	6.6	--	--	--	--	--	--

DATE	SUS. SED. SIEVE DIAM. % FINER THAN .062 MM	SUS. SED. FALL DIAM. % FINER THAN .125 MM	SUS. SED. SIEVE DIAM. % FINER THAN .125 MM	SUS. SED. FALL DIAM. % FINER THAN .250 MM	SUS. SED. SIEVE DIAM. % FINER THAN .250 MM	SUS. SED. FALL DIAM. % FINER THAN .500 MM	SUS. SED. SIEVE DIAM. % FINER THAN .500 MM	SUS. SED. FALL DIAM. % FINER THAN 1.00 MM	SUS. SED. SIEVE DIAM. % FINER THAN 1.00 MM	SUS. SED. SIEVE DIAM. % FINER THAN 2.00 MM
OCT										
16...	44	--	53	--	75	--	99	--	100	--
18...	80	--	82	--	90	--	99	--	100	--
25...	94	--	96	--	99	--	100	--	--	--
DEC										
22...	34	--	37	--	68	--	96	--	100	--
JAN										
03...	--	93	--	98	--	100	--	--	--	--
06...	37	--	40	--	47	--	59	--	85	99
06...	--	86	--	91	--	98	--	100	--	--
07...	--	77	--	92	--	99	--	100	--	--
07...	--	84	--	96	--	100	--	--	--	--
07...	--	74	--	87	--	99	--	100	--	--
08...	15	--	21	--	42	--	88	--	100	--
FEB										
24...	30	--	49	--	86	--	99	--	100	--
MAY										
09...	93	--	94	--	98	--	100	--	--	--
AUG										
17...	42	--	54	--	82	--	98	--	100	--
17...	--	44	--	72	--	97	--	100	--	--
24...	34	--	49	--	81	--	100	--	--	--

## PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	TEMPER- ATURE (DEG C)	NUMBER OF SAM- PLING POINTS	INSTAN- TANEOUS DIS- CHARGE (CFS)	BED MAT. SIEVE DIAM. % FINER THAN .062 MM	BED MAT. SIEVE DIAM. % FINER THAN .125 MM	BED MAT. SIEVE DIAM. % FINER THAN .250 MM	BED MAT. SIEVE DIAM. % FINER THAN .500 MM	BED MAT. SIEVE DIAM. % FINER THAN 1.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 2.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 4.00 MM
AUG											
24...	1030	24.5	3	37	0	0	5	30	80	97	100

## SANTA ANA RIVER BASIN

## 11069000 LAKE HEMET NEAR IDYLLWILD, CA

LOCATION.--Lat 33°39'56", long 116°42'19", in SE¼SW¼NE¼ sec.7, T.6 S., R.3 E., Riverside County, on upstream face near right end of dam on South Fork San Jacinto River, 5 mi (8 km) southeast of Idyllwild, and 6.5 mi (10.5 km) upstream from mouth.

DRAINAGE AREA.--65.6 mi<sup>2</sup> (169.9 km<sup>2</sup>).

PERIOD OF RECORD.--October 1961 to current year.

GAGE.--Nonrecording gage read once daily. Datum of gage is 4,201.5 ft (1,280.617 m) above mean sea level (levels by Lake Hemet Municipal Water District).

REMARKS.--Lake is formed by single-arch dam. Dam was completed to a height of 110 ft (33.5 m) in 1893; raised to 122.5 ft (37.34 m) in 1895, and to 135 ft (41.1 m) in 1923. Capacity table is dated February 1932 (furnished by Lake Hemet Municipal Water District). Lowest sluice gate silted, elevation, 4,222.6 ft (1,287.05 m). Capacity below spillway level, elevation, 4,333.0 ft (1,320.70 m), 11,882 acre-ft (14.7 hm<sup>3</sup>). Water is released from lake to South Fork San Jacinto River for domestic use and irrigation in the Hemet-San Jacinto Valley. See schematic diagram of Santa Ana River basin.

COOPERATION.--Elevations were furnished by Lake Hemet Municipal Water District.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 13,880 acre-ft (17.1 hm<sup>3</sup>) Feb. 25, 1969, elevation, 4,337.58 ft (1,322.094 m); minimum observed, 264 acre-ft (326 m<sup>3</sup>) Nov. 19, 1962, Nov. 19, 1963, elevation, 4,266.9 ft (1,300.55 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 6,090 acre-ft (7.51 hm<sup>3</sup>) May 26 to June 1 and June 9, elevation, 4,314.92 ft (1,315.188 m); minimum observed, 5,310 acre-ft (6.55 hm<sup>3</sup>) Sept. 30, elevation, 4,311.67 ft (1,314.197 m).

## MONTHEND ELEVATION AND CONTENTS, AT 0800, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30.....	4313.08	5640	--
Oct. 31.....	4312.17	5430	-210
Nov. 30.....	4312.00	5390	-40
Dec. 31.....	4312.42	5490	+100
CAL YR 1976.....	--	--	-150
Jan. 31.....	4313.17	5660	+170
Feb. 28.....	4313.58	5760	+100
Mar. 31.....	4314.08	5880	+120
Apr. 30.....	4314.33	5940	+60
May 31.....	4314.92	6090	+150
June 30.....	4314.58	6000	-90
July 31.....	4313.42	5720	-280
Aug. 31.....	4312.92	5600	-120
Sept. 30.....	4311.67	5310	-290
WTR YR 1977.....	--	--	-330

## 11069500 SAN JACINTO RIVER NEAR SAN JACINTO, CA

LOCATION.--Lat 33°44'10", long 116°49'26", in NE¼NE¼SE¼ sec.13, T.5 S., R.1 E., Riverside County, on right bank 350 ft (107 m) upstream from bridge on State Highway 74, 1 mi (2 km) downstream from North Fork, 8.3 mi (13.4 km) southeast of San Jacinto, and 9 mi (14 km) downstream from Lake Hemet.

DRAINAGE AREA.--141 mi<sup>2</sup> (365 km<sup>2</sup>).

PERIOD OF RECORD.--October 1920 to February 1927, March 1927 to current year. Records since Oct. 1, 1969, equivalent to prior records if lower diversion is deducted from flow past station. Combined records of river and diversion, October 1948 to current year. Monthly discharge only for October 1920 and July to September 1926, published in WSP 1315-B.

GAGE.--Water-stage recorder on river; water-stage recorder on upper canal. Datum of river gage is 1,982.75 ft (604.342 m) above mean sea level (Corps of Engineers bench mark). See WSP 1735 for history of changes prior to Jan. 23, 1948. Prior to Oct. 1, 1969, at site 350 ft (107 m) downstream at same datum. Canal gage at different datum.

REMARKS.--Records fair. Flow partly regulated by Lake Hemet (station 11069000). Lake Hemet Municipal Water District's upper canal diverts 4.0 mi (6.4 km) above station. One small diversion for domestic use above station. Diversion above station began prior to 1920. Since relocation of station above lower diversion on Oct. 1, 1969, the records of lower diversion are available at Lake Hemet Municipal Water District. See schematic diagram of Santa Ana River basin. Combined records are equivalent for period of record. For records of combined daily discharge of San Jacinto River and diversion, see following page.

AVERAGE DISCHARGE.--River only: 48 years (water years 1921-26, 1928-69), 18.0 ft<sup>3</sup>/s (0.510 m<sup>3</sup>/s), 13,040 acre-ft/yr (16.1 hm<sup>3</sup>/yr); 8 years (water years 1970-77), 4.47 ft<sup>3</sup>/s (0.127 m<sup>3</sup>/s), 3,240 acre-ft/yr (3.99 hm<sup>3</sup>/yr). Combined river and diversion: 29 years (water years 1949-77), 17.1 ft<sup>3</sup>/s (0.484 m<sup>3</sup>/s), 12,390 acre-ft/yr (15.3 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--River only: Maximum discharge, 45,000 ft<sup>3</sup>/s (1,270 m<sup>3</sup>/s) Feb. 16, 1927, on basis of slope-area measurement of maximum flow; no flow for several months in some years. Combined river and diversion: Maximum discharge, 7,420 ft<sup>3</sup>/s (210 m<sup>3</sup>/s) Jan. 25, 1969; no flow at times in 1951, 1952, 1957, 1976.

EXTREMES FOR CURRENT YEAR.--River only: Maximum discharge, 55 ft<sup>3</sup>/s (1.56 m<sup>3</sup>/s) Jan. 3, gage height, 9.99 ft (3.045 m); maximum gage height, 10.00 ft (3.048 m) May 13; no peak above base of 100 ft<sup>3</sup>/s (2.83 m<sup>3</sup>/s); no flow many days. Combined river and diversion: Maximum discharge, 69 ft<sup>3</sup>/s (1.95 m<sup>3</sup>/s) Jan. 3; minimum daily, 1.4 ft<sup>3</sup>/s (0.04 m<sup>3</sup>/s) Dec. 16-18.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.16	.14	.23	2.2	1.4	1.0	2.4	.35	4.0	.34	0	0
2	.18	.14	.25	1.5	1.4	1.0	2.1	.34	2.8	.38	0	0
3	.16	.13	.25	15	1.2	.97	2.0	.34	.89	.33	0	.03
4	.14	.13	.25	5.3	1.2	.97	1.8	.37	.79	.32	0	.02
5	.14	.13	.25	3.5	1.2	.91	1.7	.45	.68	.27	0	0
6	.11	.13	.23	4.2	1.2	.85	3.3	.48	.70	.17	0	0
7	.10	.10	.23	3.5	1.2	.79	4.5	.45	.75	.12	0	0
8	.09	.10	.23	3.0	1.1	.73	4.4	1.2	.80	.07	0	0
9	.08	.10	.24	2.5	1.2	.73	3.7	21	.84	.02	0	0
10	.07	.11	.24	2.4	1.1	.70	3.4	13	.75	0	0	0
11	.07	.16	.23	2.2	1.1	.73	2.8	12	.81	0	0	0
12	.16	.52	.24	2.0	1.0	.72	2.1	11	.83	0	0	0
13	.11	.38	.23	1.8	.97	.76	1.7	18	.82	0	0	0
14	.11	.26	.23	1.7	.97	.78	1.3	10	.84	0	0	0
15	.07	.24	.23	1.6	.97	.78	1.2	8.5	.82	0	.03	0
16	.05	.22	.23	1.5	.97	.91	1.1	7.5	.79	0	0	0
17	.05	.20	.23	1.5	.91	1.2	1.0	6.5	.75	0	0	0
18	.05	.20	.24	1.4	.85	1.3	.99	6.0	.79	0	0	0
19	.05	.20	.23	1.9	.85	1.1	.59	5.5	.81	0	0	0
20	.04	.20	.22	2.2	.85	.98	.56	5.0	.86	0	0	0
21	.04	.22	.23	2.9	.79	.86	.52	5.0	.94	0	0	0
22	.14	.22	.22	4.2	.85	.76	.46	5.0	.79	0	0	0
23	.14	.22	.23	2.8	1.0	.80	.42	6.0	.73	0	.65	0
24	.14	.22	.22	2.2	1.9	.97	.40	5.5	.65	0	.18	0
25	.24	.22	.23	1.9	1.6	2.2	.35	5.0	.49	0	.03	0
26	.20	.24	.22	2.2	1.2	1.6	.36	5.0	.43	0	.01	0
27	.18	.25	.21	2.0	1.2	1.9	.42	4.5	.47	0	.02	0
28	.20	.26	.20	1.8	1.2	2.6	.37	4.0	.44	0	.02	0
29	.17	.26	.20	1.6	---	2.3	.37	4.0	.41	0	.04	0
30	.16	.25	.71	1.5	---	2.2	.38	4.0	.31	0	0	0
31	.15	---	3.0	1.4	---	2.1	---	4.0	---	0	0	---
TOTAL	3.75	6.15	10.38	85.4	31.38	36.20	46.69	179.98	26.78	2.02	.98	.05
MEAN	.12	.21	.33	2.75	1.12	1.17	1.56	5.81	.89	.065	.032	.002
MAX	.24	.52	3.0	15	1.9	2.6	4.5	21	4.0	.38	.65	.03
MIN	.04	.10	.20	1.4	.79	.70	.35	.34	.31	0	0	0
AC-FT	7.4	12	21	169	62	72	93	357	53	4.0	1.9	.10

CAL YR 1976 TOTAL 1578.89 MEAN 4.31 MAX 270 MIN 0 AC-FT 3130  
WTR YR 1977 TOTAL 429.76 MEAN 1.18 MAX 21 MIN 0 AC-FT 852

## SANTA ANA RIVER BASIN

11069500 SAN JACINTO RIVER NEAR SAN JACINTO, CA--Continued

COMBINED DISCHARGE, IN CUBIC FEET PER SECOND, OF SAN JACINTO RIVER AND LAKE HEMET  
WATER CO.'S UPPER CANAL, NEAR SAN JACINTO, CA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.0	3.8	1.5	8.2	4.5	4.4	6.7	4.3	7.7	3.3	2.5	3.0
2	6.0	3.9	1.7	5.5	4.5	4.2	6.4	4.1	8.8	3.5	2.5	3.0
3	6.0	3.8	1.8	24	4.1	4.1	6.1	4.0	7.8	3.3	2.5	3.0
4	5.5	3.6	1.7	9.1	4.0	4.1	6.2	4.1	7.4	3.4	2.5	3.0
5	5.0	3.7	1.8	6.0	3.9	3.8	7.2	4.2	7.3	3.4	2.5	3.0
6	4.8	3.7	1.6	7.6	3.9	3.6	8.9	4.3	7.2	3.0	2.5	3.0
7	4.6	3.7	1.6	6.9	3.9	3.5	10	4.4	6.7	2.8	2.5	3.0
8	4.3	3.7	1.6	6.0	3.7	3.3	10	6.8	6.6	2.7	2.5	3.0
9	4.2	3.6	1.6	5.2	3.8	3.2	9.3	29	7.2	2.4	2.5	3.0
10	4.3	3.7	1.6	5.0	3.7	3.2	9.0	20	6.4	2.4	2.5	3.0
11	5.3	3.9	1.6	4.7	3.5	3.1	8.5	18	6.2	2.3	2.5	3.0
12	5.6	6.2	1.5	4.4	3.4	3.0	7.8	17	5.8	2.3	2.7	3.0
13	5.6	5.0	1.5	4.2	3.4	3.1	7.3	25	5.5	2.4	2.7	3.0
14	5.6	3.2	1.5	4.1	3.5	3.2	7.1	18	5.0	2.5	2.7	3.0
15	5.8	2.9	1.5	4.0	3.6	3.1	6.9	15	4.8	2.5	2.7	3.0
16	5.8	2.4	1.4	3.9	3.6	3.5	6.6	13	4.4	2.5	2.7	3.0
17	5.7	1.9	1.4	3.9	3.4	4.4	6.4	11	4.2	2.3	15	3.0
18	5.9	1.8	1.4	3.9	3.4	4.4	6.7	11	4.0	2.2	8.0	3.0
19	5.8	1.7	1.5	4.4	3.3	4.1	6.8	9.9	3.9	2.3	5.0	3.0
20	4.3	1.7	1.5	4.9	3.3	4.0	6.2	9.1	3.9	2.3	3.5	3.0
21	4.3	1.7	1.6	5.7	3.2	3.8	5.7	9.0	3.8	2.1	3.0	3.0
22	5.3	1.6	1.5	7.1	3.6	3.7	5.4	8.9	3.6	2.2	3.0	5.5
23	8.4	1.5	1.6	5.8	4.2	3.7	5.0	10	3.3	2.2	3.7	4.5
24	5.8	1.5	1.6	5.3	6.5	5.2	4.9	12	2.9	2.1	3.2	4.0
25	5.2	1.5	1.6	5.1	6.1	6.3	4.8	9.9	2.4	2.0	3.0	4.0
26	4.8	1.5	1.5	5.5	5.4	6.0	4.8	9.2	2.2	2.0	3.0	3.5
27	4.2	1.9	1.5	5.4	5.0	6.6	4.7	8.4	2.9	2.0	3.0	3.5
28	4.2	1.9	1.5	5.2	4.8	7.7	4.6	7.8	3.3	2.0	3.0	3.4
29	4.2	1.7	1.5	5.2	---	6.9	4.4	7.7	3.5	2.0	3.0	3.4
30	4.2	1.6	3.7	5.0	---	6.4	4.3	7.7	3.6	2.0	3.0	3.6
31	4.2	---	13	4.6	---	6.2	---	7.6	---	2.0	3.0	---
TOTAL	160.9	84.3	61.9	185.8	113.2	135.8	198.7	330.4	152.3	76.4	106.4	98.4
MEAN	5.19	2.81	2.00	5.99	4.04	4.38	6.62	10.7	5.08	2.46	3.43	3.28
MAX	8.4	6.2	13	24	6.5	7.7	10	29	8.8	3.5	15	5.5
MIN	4.2	1.5	1.4	3.9	3.2	3.0	4.3	4.0	2.2	2.0	2.5	3.0
AC-FT	319	167	123	369	225	269	394	655	302	152	211	195
CAL YR 1976	TOTAL	2804.55	MEAN 7.66	MAX 277	MIN 0	AC-FT 5560						
WTR YR 1977	TOTAL	1704.50	MEAN 4.67	MAX 29	MIN 1.4	AC-FT 3380						

## 11070050 BAUTISTA CREEK AT VALLE VISTA, CA

LOCATION.--Lat 33°44'04", long 116°53'33", in SE¼NE¼SE¼ sec.17, T.5 S., R.1 E., Riverside County, on left levee of flood channel, 1.0 mi (1.6 km) south of Valle Vista.

DRAINAGE AREA.--47.2 mi<sup>2</sup> (122.2 km<sup>2</sup>).

PERIOD OF RECORD.--October 1969 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 1,835 ft (559 m), from topographic map.

REMARKS.--Records poor. No regulation above station. Diversion above station for irrigation of about 15 acres (61,000 m<sup>2</sup>). Some infiltration by detention dam, 1.5 mi (2.4 km) upstream.

AVERAGE DISCHARGE.--8 years, 0.48 ft<sup>3</sup>/s (0.014 m<sup>3</sup>/s), 348 acre-ft/yr (429,000 m<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,050 ft<sup>3</sup>/s (29.7 m<sup>3</sup>/s) Aug. 17, 1977, gage height, 2.96 ft (0.902 m), from floodmark, from rating curve extended above 80 ft<sup>3</sup>/s (2.27 m<sup>3</sup>/s) on basis of computation of flow in concrete-lined channel at gage heights 1.50 ft (0.457 m), 2.00 ft (0.610 m), and 3.00 ft (0.914 m); no flow for many days in each year.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 100 ft<sup>3</sup>/s (2.83 m<sup>3</sup>/s) and maximum (\*), from rating curve extended as explained above:

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)		Gage height (ft) (m)		Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)		Gage height (ft) (m)	
Oct. 17	0615	507	14.4	2.29	0.698	Aug. 17	Unknown	615	17.4	2.42	0.738
Jan. 3	0445	255	7.22	1.87	0.570	Sept. 19	Unknown	124	3.51	1.56	0.475
Aug. 15	Unknown	*1050	29.7	2.96	0.902						

Minimum daily discharge, no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	.50	0	.22	.62	.14	.45	.45	0	0	0	0
2	0	.45	.10	.22	.62	.14	1.1	0	0	0	0	0
3	.14	.32	.14	18	.62	0	1.1	.22	0	0	0	0
4	.14	0	.22	.45	.62	0	1.1	1.1	0	0	0	0
5	0	0	.22	.32	.82	0	1.7	.62	0	0	0	0
6	0	0	.32	2.2	.62	0	.62	0	.14	0	0	0
7	0	0	.14	.32	.32	.22	0	0	0	0	0	0
8	0	.14	0	.32	0	.22	0	5.6	.14	0	.14	0
9	.14	0	0	.32	.14	.14	0	7.9	0	0	.14	0
10	0	0	0	.22	.14	0	.14	2.2	0	0	.14	0
11	0	0	0	0	.32	0	.14	1.7	0	0	0	0
12	0	2.7	0	0	.22	0	0	2.2	0	0	0	0
13	0	1.4	0	0	0	.14	0	2.2	0	0	.14	0
14	0	.22	0	0	0	0	0	2.7	0	0	0	0
15	0	.14	0	0	0	0	0	.82	0	50	0	0
16	.14	0	.14	0	0	0	0	1.1	0	1.0	0	0
17	30	0	0	0	0	0	0	1.4	.14	60	0	0
18	.14	0	.14	0	0	0	0	1.4	.45	1.0	0	0
19	.22	0	.32	0	0	0	0	1.7	.14	0	6.0	0
20	.32	0	.14	0	0	0	0	1.4	0	0	0	0
21	1.7	0	.14	0	.14	0	0	1.1	0	0	0	0
22	1.7	.14	.45	1.7	0	0	0	1.1	0	0	0	0
23	1.4	0	.32	3.2	0	.14	0	.82	0	0	0	0
24	1.4	0	.14	2.7	.82	.32	0	2.2	0	0	0	0
25	1.7	0	.14	1.1	.62	2.2	0	1.7	0	0	0	0
26	1.2	0	.14	.45	0	.45	0	2.2	0	0	0	0
27	1.0	0	0	.45	0	.82	0	1.4	0	0	0	0
28	.90	0	0	.45	.09	0	0	2.7	0	0	0	0
29	.80	0	0	.62	---	0	0	1.7	0	0	0	0
30	.70	0	2.2	.62	---	0	.14	.18	0	0	0	0
31	.60	---	4.7	.62	---	.14	---	1.1	---	0	---	---
TOTAL	44.34	6.01	10.11	34.50	6.73	5.07	6.49	50.91	1.01	0	112.56	6.0
MEAN	1.43	.20	.33	1.11	.24	.16	.22	1.64	.034	0	3.63	.20
MAX	30	2.7	4.7	18	.82	2.2	1.7	7.9	.45	0	60	6.0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	88	12	20	68	13	10	13	101	2.0	0	223	12
CAL YR 1976	TOTAL	128.31	MEAN .35	MAX 30	MIN 0	AC-FT 255						
WTR YR 1977	TOTAL	283.73	MEAN .78	MAX 60	MIN 0	AC-FT 563						

## SANTA ANA RIVER BASIN

11070375 SAN JACINTO RIVER AT RAILROAD CANYON WEIR, NEAR ELSINORE, CA

LOCATION.--Lat 33°44'10", long 117°15'08", in SW¼SE¼NW¼ sec.13, T.5 S., R.4 W., Riverside County, on right bank 4.3 mi (6.9 km) northeast of Railroad Canyon Dam, and 5.8 mi (9.3 km) northeast of Elsinore.

DRAINAGE AREA.--562 mi<sup>2</sup> (1,456 km<sup>2</sup>).

PERIOD OF RECORD.--October 1951 to current year. Monthly discharge only prior to October 1971. Daily discharge available in district files.

GAGE.--Water-stage recorder. Altitude of gage is 1,400 ft (427 m), from topographic map. Prior to Sept. 28, 1960, at site 0.8 mi (1.3 km) upstream at different datum.

REMARKS.--Flow partially regulated by Lake Hemet (station 11069000). Diversions for irrigation and domestic use above station. At times imported Colorado River water is discharged into channel above station by Temescal Water Co. or Elsinore Valley Municipal Water District.

COOPERATION.--Records were published as furnished by Riverside County Flood Control and Water Conservation District.

AVERAGE DISCHARGE.--River only: 26 years, 5.40 ft<sup>3</sup>/s (0.153 m<sup>3</sup>/s), 3,910 acre-ft/yr (4.82 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,330 ft<sup>3</sup>/s (151 m<sup>3</sup>/s) Feb. 25, 1969, results of runoff study by Riverside County Flood Control and Water Conservation District; no flow for long periods in each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 152 ft<sup>3</sup>/s (4.30 m<sup>3</sup>/s) Aug. 17, gage height, 1.64 ft (0.500 m); no flow most of year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0			0	0	0		0			0	
2	0			0	0	0		0			0	
3	0			0	0	0		0			0	
4	0			0	0	0		0			0	
5	0			0	0	0		0			0	
6	0			0	0	0		0			0	
7	0			0	0	0		0			0	
8	0			8.9	0	0		85			0	
9	0			4.3	0	0		141			0	
10	0			.11	0	0		93			0	
11	0			19	0	0		0			0	
12	0			55	0	0		0			0	
13	0			9.6	0	0		0			0	
14	0			1.4	0	0		0			0	
15	0			.20	0	0		0			0	
16	0			0	0	0		0			0	
17	0			0	0	0		0			55	
18	0			0	0	0		0			45	
19	0			0	0	0		0			3.6	
20	0			0	0	0		0			0	
21	0			11	0	0		0			0	
22	0			13	0	0		0			0	
23	30			1.6	0	0		0			0	
24	15			.59	12	.17		0			0	
25	3.6			.18	25	7.1		0			0	
26	.81			0	3.3	2.3		0			0	
27	.05			0	.72	.54		0			0	
28	0			0	.18	0		0			0	
29	0			0	---	0		0			0	
30	0			0	---	0		0			0	
31	0	---		0	---	0	---	0	---		0	---
TOTAL	49.46	0	0	124.88	41.20	10.11	0	319	0	0	103.6	0
MEAN	1.60	0	0	4.03	1.47	.33	0	10.3	0	0	3.34	0
MAX	30	0	0	55	25	7.1	0	141	0	0	55	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	98	0	0	248	82	20	0	633	0	0	205	0
a	0	0	0	0	0	0	0	2920	0	0	0	0

CAL YR 1976 TOTAL 784.40 MEAN 2.14 MAX 204 MIN 0 AC-FT 1560 AC-FT a 2930

WTR YR 1977 TOTAL 648.25 MEAN 1.78 MAX 141 MIN 0 AC-FT 1290 AC-FT a 2920

a Imported Colorado River water, in acre-feet.



LOCATION.--Lat 33°40'42", long 117°14'03", in SW¼SE¼NW¼ sec.6, T.6 S., R.3 W., Riverside County, on left bank at Railroad Canyon Road, 5.1 mi (8.2 km) northeast of Elsinore.

PERIOD OF RECORD.--October 1969 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,382.0 ft (421.23 m) above mean sea level (levels by Riverside County Flood Control and Water Conservation District).

REMARKS.--No regulation or diversion above station.

COOPERATION.--Records were published as furnished by Riverside County Flood Control and Water Conservation District.

AVERAGE DISCHARGE.--8 years, 0.31 ft<sup>3</sup>/s (0.009 m<sup>3</sup>/s), 225 acre-ft/yr (280,000 m<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 169 ft<sup>3</sup>/s (4.79 m<sup>3</sup>/s) Jan. 8, 1974, gage height not furnished; no flow most of each year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Feb. 25, 1969, 2,010 ft<sup>3</sup>/s (56.9 m<sup>3</sup>/s), at site 1 mi (1.6 km) upstream, from records of Riverside County Flood Control and Water Conservation District.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 19 ft<sup>3</sup>/s (0.54 m<sup>3</sup>/s) Jan. 7, gage height, 0.87 ft (0.265 m); no flow most of year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0			0		0		0			0	
2	0			0		0		0			0	
3	0			2.0		0		0			0	
4	0			.08		0		0			0	
5	0			0		0		0			0	
6	0			12		0		0			0	
7	0			18		0		0			0	
8	0			9.1		0		0			0	
9	0			1.0		0		8.8			0	
10	0			0		0		-2.8			0	
11	0			0		0					0	
12	0			0		0		0			0	
13	0			0		0		0			0	
14	0			0		0		0			0	
15	0			0		0		0			0	
16	0			0		0		0			0	
17	0			0		0		0			8.1	
18	0			0		0		0			8.7	
19	0			0		0		0			.05	
20	0			0		0		0			0	
21	0			0		0		0			0	
22	0			0		0		0			0	
23	.91			0		0		0			0	
24	0			0		0		0			0	
25	0			0		.60		0			0	
26	0			0		.29		0			0	
27	0			0		0		0			0	
28	0			0		0		0			0	
29	0			0	---	0		0			0	
30	0			0	---	0		0			0	
31	0	---		0	---	0	---	0	---		0	---
TOTAL	.91	0	0	42.18	0	.89	0	11.6	0	0	16.85	0
MEAN	.029	0	0	1.36	0	.029	0	.37	0	0	.54	0
MAX	.91	0	0	18	0	.60	0	8.8	0	0	8.7	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	1.8	0	0	84	0	1.8	0	23	0	0	33	0
CAL YR 1976	TOTAL 90.59	MEAN .25	MAX 44	MIN 0	AC-FT 180							
WTR YR 1977	TOTAL 72.43	MEAN .20	MAX 18	MIN 0	AC-FT 144							

## SANTA ANA RIVER BASIN

11070500 SAN JACINTO RIVER NEAR ELSINORE, CA

LOCATION.--Lat 33°39'51", long 117°17'35", in SE¼SE¼NE¼ sec.9, T.6 S., R.4 W., Riverside County, on right bank 2 mi (3 km) east of Elsinore, and 2.1 mi (3.4 km) downstream from Railroad Canyon Dam.

DRAINAGE AREA.--723 mi<sup>2</sup> (1,873 km<sup>2</sup>).

PERIOD OF RECORD.--January 1916 to current year. Monthly figures 1927-50, adjusted for diversion, published in WSP 1315-B.

GAGE.--Water-stage recorder. Altitude of gage is 1,270 ft (387 m), from topographic map. Prior to Feb. 13, 1916, nonrecording gage at site 0.7 mi (1.1 km) downstream at different datum. Feb. 13, 1916, to Oct. 27, 1921, nonrecording gage at present site at different datum.

REMARKS.--Records fair. Flow partly regulated by Lake Hemet (station 11069000) and regulated since 1928 by Railroad Canyon Reservoir, capacity, 12,000 acre-ft (14.8 hm<sup>3</sup>), 2.1 mi (3.4 km) above station. Diversion for irrigation and domestic use above Railroad Canyon Reservoir. Temescal Water Co. diverted 812 acre-ft (1.00 hm<sup>3</sup>/yr) during current year from Railroad Canyon Reservoir for irrigation below station in vicinity of Corona. See schematic diagram of Santa Ana River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,000 ft<sup>3</sup>/s (453 m<sup>3</sup>/s) Feb. 17, 1927, gage height, 11.8 ft (3.60 m), from rating curve extended above 2,000 ft<sup>3</sup>/s (56.6 m<sup>3</sup>/s) on basis of slope-area measurement of maximum flow; no flow for several months in most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6.2 ft<sup>3</sup>/s (0.18 m<sup>3</sup>/s) June 19, gage height, 2.81 ft (0.856 m); minimum daily, no flow for several months.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.02	.05	.64	.34	.44	.38	.39	.04	0			
2	.02	.05	.79	.27	.61	.41	.40	.03	0			
3	.03	.06	.73	.93	1.2	.43	.37	.02	0			
4	.03	.09	.48	.50	3.0	.40	.31	.02	0			
5	.02	.11	.32	.35	2.9	.35	.31	.01	0			
6	0	.13	.37	1.4	3.0	.33	.26	.03	.03			
7	0	.14	.59	2.4	3.0	.32	.18	.05	0			
8	0	.15	.46	1.0	2.9	.28	.17	.25	0			
9	0	.18	.54	.57	3.0	.26	.17	.82	0			
10	0	.19	.38	.49	2.7	.26	.18	.39	0			
11	.20	.23	.60	.61	2.7	.20	1.1	.23	0			
12	1.1	.42	.25	1.4	2.6	.21	1.0	.21	0			
13	1.3	.27	.24	.76	2.5	.22	.21	.24	0			
14	1.3	.19	.28	.43	2.8	.19	.18	.23	0			
15	1.3	.17	.29	.41	3.0	.13	.15	.21	0			
16	1.1	.13	.29	.42	3.2	.22	.13	.23	0			
17	1.0	.11	.29	.42	3.2	.36	.11	.25	0			
18	1.1	.11	.28	.46	3.2	.24	.11	.17	2.1			
19	1.2	.13	.27	.46	2.1	.19	.09	.15	2.3			
20	.58	.20	.24	.47	2.1	.19	.09	.10	0			
21	.11	.33	.28	.47	3.1	.17	.08	.08	0			
22	.14	.18	.27	.45	3.4	.17	.10	.06	0			
23	.14	.16	.28	.46	3.2	.17	.08	.04	0			
24	.12	.19	.27	.46	1.9	.21	.05	.07	0			
25	.11	.26	.24	.47	.81	.59	.02	.11	0			
26	.09	.19	.23	.47	.46	.51	.02	.10	0			
27	.06	.17	.24	.45	.42	.31	.01	.08	0			
28	.05	.16	.26	.42	.39	.29	.02	.05	0			
29	.05	.37	.31	.42	---	.29	.04	.02	0			
30	.05	.52	.39	.38	---	.37	.04	0	0			
31	.05	---	.49	.36	---	.39	---	0	---			---
TOTAL	11.27	5.64	11.59	18.90	63.83	9.04	6.37	4.29	4.43	0	0	0
MEAN	.36	.19	.37	.61	2.28	.29	.21	.14	.15	0	0	0
MAX	1.3	.52	.79	2.4	3.4	.59	1.1	.82	2.3	0	0	0
MIN	0	.05	.23	.27	.39	.13	.01	0	0	0	0	0
AC-FT	22	11	23	37	127	18	13	8.5	8.8	0	0	0

CAL YR 1976 TOTAL 174.90 MEAN .48 MAX 7.6 MIN 0 AC-FT 347  
WTR YR 1977 TOTAL 135.36 MEAN .37 MAX 3.4 MIN 0 AC-FT 268

## 11072000 TEMESCAL CREEK NEAR CORONA, CA

LOCATION.--Lat 33°50'29", long 117°30'37", in El Sobrante de San Jacinto Grant, Riverside County, on left bank 0.2 mi (0.3 km) downstream from unnamed tributary, and 3.8 mi (6.1 km) southeast of Corona.

DRAINAGE AREA.--164 mi<sup>2</sup> (425 km<sup>2</sup>), excludes 768 mi<sup>2</sup> (1,989 km<sup>2</sup>) above Lake Elsinore.

PERIOD OF RECORD.--October 1927 to current year. Monthly discharge only for the period October 1928 to January 1929, published in WSP 1315-B.

GAGE.--Water-stage recorder. Concrete control since June 12, 1970. Altitude of gage is 730 ft (223 m), from topographic map. Prior to Feb. 11, 1943, at datum 6.00 ft (1.829 m) higher.

REMARKS.--Records poor. Flow regulated by several storage reservoirs. Many diversions above station for irrigation. See schematic diagram of Santa Ana River basin.

AVERAGE DISCHARGE.--50 years, 3.20 ft<sup>3</sup>/s (0.091 m<sup>3</sup>/s), 2,320 acre-ft/yr (2.86 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,900 ft<sup>3</sup>/s (422 m<sup>3</sup>/s) Mar. 2, 1938, on basis of slope-area measurement of maximum flow; no flow at times in most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 181 ft<sup>3</sup>/s (5.13 m<sup>3</sup>/s) May 8, gage height, 9.93 ft (3.027 m); no flow for several months.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1				0	.14	0	.03	0			0	
2				.92	.08	0	0	0			0	
3				12	.04	0	.02	0			0	
4				.08	.03	0	.01	0			0	
5				.41	.03	0	.01	0			0	
6				30	.02	0	0	0			0	
7				2.7	.02	0	0	0			0	
8				.10	0	0	0	5.7			0	
9				.05	0	0	0	1.6			0	
10				.02	0	0	0	.01			0	
11				0	0	0	0	.05			0	
12				0	0	0	0	.06			0	
13				0	0	0	0	.03			0	
14				0	0	0	0	.02			0	
15				0	0	0	0	.01			0	
16				.10	0	.01	0	0			0	
17				.24	0	.01	0	0			19	
18				.27	0	0	0	0			1.1	
19				.24	0	0	0	0			0	
20				.28	0	0	0	0			0	
21				.26	0	0	0	0			0	
22				.24	0	0	0	0			0	
23				.24	0	0	0	0			0	
24				.22	8.6	0	0	0			0	
25				.20	.02	.85	0	0			0	
26				.22	0	.02	0	0			0	
27				.18	0	.01	0	0			0	
28				.17	0	0	0	0			0	
29				.16	---	.02	0	0			0	
30				.14	---	.02	0	0			0	
31		---		.15	---	.01	---	0	---		0	---
TOTAL	0	0	0	49.59	8.98	.95	.07	7.48	0	0	20.1	0
MEAN	0	0	0	1.60	.32	.031	.002	.24	0	0	.65	0
MAX	0	0	0	30	8.6	.85	.03	5.7	0	0	19	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	0	0	98	18	1.9	.1	15	0	0	40	0
CAL YR 1976	TOTAL	52.07	MEAN	.14	MAX	37	MIN	0	AC-FT	103		
WTR YR 1977	TOTAL	87.17	MEAN	.24	MAX	30	MIN	0	AC-FT	173		

## SANTA ANA RIVER BASIN

11073200 SAN ANTONIO CREEK BELOW SAN ANTONIO DAM, CA

LOCATION.--Lat 34°09'26", long 117°40'50", in NE¼NE¼SE¼ sec.23, T.1 N., R.8 W., Los Angeles-San Bernardino County line, on left wall of outlet channel at toe of San Antonio Dam, and 4.7 mi (7.6 km) northeast of Claremont.

DRAINAGE AREA.--26.9 mi<sup>2</sup> (69.7 km<sup>2</sup>).

PERIOD OF RECORD.--October 1962 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2,093.94 ft (638.233 m) above mean sea level (Corps of Engineers bench mark).

REMARKS.--Records fair. Flow regulated by San Antonio flood-control reservoir, capacity, 7,620 acre-ft (9.40 hm<sup>3</sup>). Water diverted out of basin for power, domestic use, and irrigation. See schematic diagram of Santa Ana River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,420 ft<sup>3</sup>/s (238 m<sup>3</sup>/s) Jan. 25, 1969, gage height, 11.22 ft (3.420 m), from rating curve extended above 400 ft<sup>3</sup>/s (11.3 m<sup>3</sup>/s) on basis of gate openings at dam; no flow most of each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,140 ft<sup>3</sup>/s (60.6 m<sup>3</sup>/s) Oct. 13, gage height, 4.70 ft (1.433 m); no flow most of year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	216		0		0	.51	0		
2	0	0	0	212		0		0	.24	0		
3	0	0	0	173		0		20	.10	.56		
4	0	0	0	87		0		0	.10	1.7		
5	0	0	0	0		0		0	.10	.34		
6	0	0	0	0		0		0	.24	0		
7	0	0	0	0		0		0	.10	0		
8	0	0	0	0		0		26	.05	0		
9	0	0	0	0		0		23	.05	0		
10	0	0	0	0		0		23	0	.02		
11	0	0	0	0		0		0	0	0		
12	6.1	137	0	0		0		61	0	0		
13	101	314	0	0		0		8.4	0	0		
14	0	376	0	0		0		1.6	.05	0		
15	0	20	0	0		0		.33	.05	0		
16	0	0	0	0		0		0	.05	0		
17	0	0	0	0		0		0	.05	0		
18	0	0	0	0		0		12	.05	0		
19	0	0	0	11		.06		.24	.05	0		
20	0	0	0	23		.02		.01	.03	0		
21	0	0	0	5.0		0		0	0	0		
22	0	0	0	0		.01		0	0	0		
23	212	0	0	0		0		.21	0	0		
24	348	0	0	.69		0		.17	0	0		
25	333	0	0	.15		0		0	.04	0		
26	3.9	0	0	.02		0		0	.10	0		
27	127	12	0	0		0		0	.10	0		
28	56	59	0	0		0		0	.10	0		
29	0	3.7	0	0		.06		0	.05	0		
30	0	5.2	122	0		.70		0	0	0		
31	0	---	190	0		.69	---	.70	---	0		---
TOTAL	1187.0	926.9	312	727.86	0	1.54	0	176.66	2.21	2.62	0	0
MEAN	38.3	30.9	10.1	23.5	0	.050	0	5.70	.074	.085	0	0
MAX	348	376	190	216	0	.70	0	61	.51	1.7	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	2350	1840	619	1440	0	3.1	0	350	4.4	5.2	0	0
CAL YR 1976 TOTAL	5740.85			MEAN 15.7	MAX 418	MIN 0	AC-FT 11390					
WTR YR 1977 TOTAL	3336.79			MEAN 9.14	MAX 376	MIN 0	AC-FT 6620					

11073210 RIALTO PIPELINE BELOW SAN ANTONIO DAM, NEAR CLAREMONT, CA

## WATER-QUALITY RECORDS

LOCATION.--Lat 34°07'43", long 117°41'29", in NW¼NE¼SW¼ sec.35, T.1 N., R.8 W., Los Angeles County, 0.5 mi (0.8 km) north of Baseline Road, and 2.1 mi (3.4 km) downstream from San Antonio Dam.

PERIOD OF RECORD.--

CHEMICAL ANALYSES: March 1974 to current year.

REMARKS.--Discharge values are from Chino Creek at Schaefer Avenue, near Chino (station 11073360).

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	HARDNESS (CA,MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)	DIS-SOLVED CALCIUM (CA) (MG/L)	DIS-SOLVED MAGNESIUM (MG)	DIS-SOLVED SODIUM (NA) (MG/L)
JAN 28...	1300	196	502	7.5	10.0	110	23	22	14	56
FEB 04...	1045	146	527	7.2	9.5	120	31	24	15	59

DATE	PERCENT SODIUM	SODIUM ADSORPTION RATIO	DIS-SOLVED PHOSPHATE (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	ALKALINITY AS CAC03 (MG/L)	CARBON DIOXIDE (CO2) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLORIDE (CL) (MG/L)
JAN 28...	51	2.3	3.2	109	0	89	5.5	40	81
FEB 04...	51	2.3	3.3	111	0	91	11	44	87

DATE	DIS-SOLVED FLUORIDE (F) (MG/L)	DIS-SOLVED SILICA (SI02) (MG/L)	DIS-SOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	DIS-SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED IRON (FE) (UG/L)
JAN 28...	.1	13	284	285	.39	150	.48	170	10
FEB 04...	.2	12	298	301	.41	117	.46	180	0

## SANTA ANA RIVER BASIN

11073360 CHINO CREEK AT SCHAEFER AVENUE, NEAR CHINO, CA

LOCATION.--Lat 34°00'14", long 117°43'34", in Santa Ana del Chino Grant, San Bernardino County, on right bank 300 ft (91 m) downstream from Schaefer Avenue, 0.8 mi (1.3 km) downstream from San Antonio Creek, and 1.5 mi (2.4 km) southwest of Chino.

DRAINAGE AREA.--48.9 mi<sup>2</sup> (126.7 km<sup>2</sup>).

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1969 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 685 ft (209 m), from topographic map.

REMARKS.--Records good. Flow partly regulated by San Antonio flood-control reservoir, capacity, 7,620 acre-ft (9.40 hm<sup>3</sup>). Natural streamflow affected by extensive ground-water withdrawals, diversions for power, domestic use, irrigation, and return flow from irrigated areas. California Water Project reported releases of 8,543.4 acre-ft (10.5 hm<sup>3</sup>) to basin at San Antonio Creek at Rialto pipeline below San Antonio Dam (station 11073210) at a point 10 mi (16 km) upstream. See schematic diagram of Santa Ana River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,920 ft<sup>3</sup>/s (82.7 m<sup>3</sup>/s) Dec. 4, 1974, gage height, 6.61 ft (2.015 m), from floodmarks, from rating curve extended above 620 ft<sup>3</sup>/s (17.6 m<sup>3</sup>/s) on basis of computation of flow in concrete-lined channel at 1,600 ft<sup>3</sup>/s (45.3 m<sup>3</sup>/s) and a contracted-opening measurement at 9.23 ft (2.813 m); no flow May 21, June 30, July 1, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Jan. 25, 1969, 9,200 ft<sup>3</sup>/s (261 m<sup>3</sup>/s), gage height, 9.23 ft (2.813 m), present datum, by contracted-opening measurement at site 6.1 mi (9.8 km) downstream.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 1,000 ft<sup>3</sup>/s (28.32 m<sup>3</sup>/s), revised, and maximum, 1,180 ft<sup>3</sup>/s (33.4 m<sup>3</sup>/s) Aug. 17 (0800 hrs), gage height, 6.62 ft (2.418 m) from rating curve extended as explained above; no flow May 21, June 30, July 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	89	.18	.09	.62	163	.05	.33	.12	.09	0	.12	.29
2	89	.21	.09	.41	146	.05	.07	.07	.05	.05	.07	.25
3	89	.29	.09	.94	146	.05	.05	.55	.07	.10	.07	.14
4	88	.25	.07	3.4	107	.05	.41	.05	.05	.03	.07	.09
5	89	.29	.14	17	.52	.05	.25	.14	.07	.05	.03	.07
6	80	.21	.14	165	.29	.05	.33	.07	.05	.03	.35	.12
7	.53	.60	.04	90	.39	.05	.39	.07	.05	.05	.05	.09
8	.21	.60	.11	.45	.21	.05	.33	150	.12	.03	.05	.09
9	.25	.44	.12	.18	.14	.05	.03	177	.07	.03	.03	.14
10	.21	.64	.09	.14	.18	.05	.03	1.2	.07	.03	.09	.12
11	.25	.33	.14	.09	.09	.05	.14	.21	.03	.05	.07	.12
12	.14	.52	.07	.09	.03	.05	.09	.25	.03	.05	.05	.07
13	.25	.07	.07	.76	.05	.05	.09	.14	.07	.07	.07	.14
14	.29	1.6	.11	131	.06	.05	.06	.07	.11	.03	.05	.14
15	.29	.09	.14	131	.05	.05	.11	.22	.07	.03	.03	.14
16	.25	.14	.17	131	.05	20	.09	.21	.07	.15	17	.12
17	.25	.07	.12	131	.05	.50	.05	.05	.07	.03	231	.14
18	.25	.07	.18	131	.05	.05	.14	.05	.03	.03	.92	.09
19	.25	.09	.21	67	.05	.05	.12	.07	.03	.03	.52	.09
20	.33	.07	.21	136	.05	.05	.07	.07	.07	.07	.09	.12
21	.14	.18	.14	136	.05	.05	.14	0	.09	.07	.07	.14
22	30	.09	.09	136	.05	.05	.18	.03	.05	.09	.05	.12
23	2.6	.07	.12	136	.05	.05	.05	10	.05	.09	.09	.18
24	.12	.09	.12	136	.05	.05	.03	23	.05	.09	.14	.12
25	.07	.14	.04	193	.05	60	.05	.07	.14	.07	.18	.09
26	.07	.14	.13	193	.05	1.0	.05	.14	.07	.09	.18	.09
27	.07	.07	.12	193	.05	.05	.07	.03	.03	.18	.25	.14
28	.07	.03	.21	193	.05	.05	.09	.07	.05	.12	.21	.14
29	.18	.07	.18	193	---	.05	.14	.05	.05	.12	.14	.18
30	.18	.07	.86	193	---	.05	.14	.05	0	.14	.21	.14
31	.14	---	.91	193	---	.05	---	.07	---	.14	.14	---
TOTAL	561.39	59.19	180.55	3240.97	564.66	82.85	4.12	364.12	1.85	2.14	252.39	3.91
MEAN	18.1	1.97	5.82	105	20.2	2.67	.14	11.7	.062	.069	8.14	.13
MAX	89	52	91	193	163	60	.41	177	.14	.18	231	.29
MIN	.07	.03	.04	.09	.03	.05	.03	0	0	0	.03	.07
AC-FT	1110	117	358	6430	1120	164	8.2	722	3.7	4.2	501	7.8
CAL YR 1976	TOTAL	20379.23	MEAN	55.7	MAX	292	MIN	.03	AC-FT	40420		
WTR YR 1977	TOTAL	5318.14	MEAN	14.6	MAX	231	MIN	0	AC-FT	10550		

11073360 CHINO CREEK AT SCHAEFER AVENUE, NEAR CHINO, CA--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--

CHEMICAL ANALYSES: March 1974 to current year.

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	HARDNESS (CA, MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)	DIS-SOLVED CALCIUM (CA) (MG/L)	DIS-SOLVED MAGNESIUM (MG)	DIS-SOLVED SODIUM (NA) (MG/L)
JAN 28...	1045	196	501	7.7	12.0	110	24	22	14	55
FEB 04...	0930	146	536	7.8	9.5	120	24	23	14	58

DATE	PERCENT SODIUM	SODIUM ADSORPTION RATIO	DIS-SOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	ALKALINITY AS CACO3 (MG/L)	CARBON DIOXIDE (CO2) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLORIDE (CL) (MG/L)
JAN 28...	51	2.3	3.2	108	0	89	3.4	41	81
FEB 04...	51	2.4	3.3	111	0	91	2.8	42	85

DATE	DIS-SOLVED FLUORIDE (F) (MG/L)	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	DIS-SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED IRON (FE) (UG/L)
JAN 28...	.1	12	287	284	.39	152	.42	170	10
FEB 04...	.2	12	298	294	.41	117	.38	180	20

## SANTA ANA RIVER BASIN

11073495 CUCAMONGA CREEK NEAR MIRA LOMA, CA

LOCATION.--Lat 33°58'58", long 117°35'55", in SW¼SW¼NE¼ sec.22, T.2 S., R.7 W., San Bernardino County, on left levee 200 ft (61 m) upstream from Merrill Avenue, and 4.6 mi (7.4 km) west of Mira Loma.

DRAINAGE AREA.--75.8 mi<sup>2</sup> (196.3 km<sup>2</sup>).

PERIOD OF RECORD.--January 1968 to July 31, 1977.

GAGE.--Water-stage recorder. Datum of gage is 655.3 ft (199.74 m) above mean sea level.

REMARKS.--Records good except for those periods of no gage-height record, Mar. 1 to Apr. 8, which are poor. Extensive ground-water withdrawals for municipal supply and irrigation. See schematic diagram of Santa Ana River basin. Station removed for channel construction on August 1.

AVERAGE DISCHARGE.--8 years (water years 1969-76) 2.74 ft<sup>3</sup>/s (0.078 m<sup>3</sup>/s), 1,990 acre-ft/yr (2.45 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,100 ft<sup>3</sup>/s (258 m<sup>3</sup>/s) Jan. 25, 1969, gage height, 7.08 ft (2.158 m), from floodmark, on basis of slope-area measurement of maximum flow; no flow most of each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 730 ft<sup>3</sup>/s (20.7 m<sup>3</sup>/s) Jan. 3, gage height, 2.45 ft (0.747 m); no flow most of year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			0	.01		0		0				
2			0	0		0		0				
3			0	27		0		0				
4			0	0		0		0				
5			0	.14		0		0				
6			0	16		0		0				
7			0	32		0		0				
8			0	9.6		0		1.9				
9			0	.02		0		5.4				
10			0	0		0		9.4				
11			0	0		0		0				
12			0	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		0				
18			0	0		0		0				
19			0	0		0		0				
20			0	0		0		0				
21			0	0		0		0				
22			0	0		0		0				
23			0	0		0		0				
24			0	0		0		0				
25			0	0		5.0		0				
26			0	0		0		0				
27			0	0		0		0				
28			0	0		0		0				
29			0	0	---	0		0				
30			0	0	---	0		0				
31		---	3.0	0	---	0	---	0	---			
TOTAL	0	0	3.0	84.77	0	5.0	0	16.7	0	0		
MEAN	0	0	.097	2.73	0	.16	0	.54	0	0		
MAX	0	0	3.0	32	0	5.0	0	9.4	0	0		
MIN	0	0	0	0	0	0	0	0	0	0		
AC-FT	0	0	6.0	168	0	9.9	0	33	0	0		
CAL YR 1976	TOTAL	61.10	MEAN	.17	MAX	17	MIN	0	AC-FT	121		



11074000 SANTA ANA RIVER BELOW PRADO DAM, CA  
(National stream-quality accounting network station)

LOCATION.--Lat 33°53'00", long 117°38'40", in La Sierra Grant, Riverside County, on left bank of outlet channel, 2,500 ft (762 m) downstream from axis of Prado Dam, and 4.5 mi (7.2 km) west of Corona.

DRAINAGE AREA.--1,490 mi<sup>2</sup> (3,859 km<sup>2</sup>), excludes 768 mi<sup>2</sup> (1,989 km<sup>2</sup>) above Lake Elsinore.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1930 to November 1939 (irrigation seasons only), March 1940 to current year. Published as "at Santa Fe Railroad Bridge, near Prado" May 1930 to November 1931, as "at Atchison, Topeka, and Santa Fe Railroad Bridge, near Prado" May 1932 to November 1939, and as "below Prado Dam, near Prado" March 1940 to September 1950.

GAGE.--Water-stage recorder and concrete control since August 1944. Datum of gage is approximately 449 ft (136.9 m) above mean sea level (Corps of Engineers Survey). Prior to Mar. 18, 1940, at about same site at various datums.

REMARKS.--Records good. Flow regulated since 1941 by Prado Reservoir, capacity, 201,200 acre-ft (248 hm<sup>3</sup>). Natural streamflow affected by extensive ground-water withdrawals, diversion for irrigation, and return flow from irrigated areas. California Water Project released 61,770 acre-ft (76.2 hm<sup>3</sup>) to basin (station 11073360). See schematic diagram of Santa Ana River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,800 ft<sup>3</sup>/s (164 m<sup>3</sup>/s) Jan. 26, 1969, gage height, 5.75 ft (1.753 m); minimum daily 3.0 ft<sup>3</sup>/s (0.085 m<sup>3</sup>/s) Sept. 24-30, 1973. Flood of Mar. 2, 1938, 100,000 ft<sup>3</sup>/s (2,830 m<sup>3</sup>/s), by slope-area measurement at site 2.5 mi (4.0 km) downstream.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 439 ft<sup>3</sup>/s (12.4 m<sup>3</sup>/s) Jan. 11, gage height, 3.52 ft (1.073 m); minimum daily, 31 ft<sup>3</sup>/s (0.88 m<sup>3</sup>/s) Aug. 15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	181	76	83	249	277	107	95	74	73	50	41	66
2	196	72	84	106	242	103	93	72	70	46	42	61
3	185	70	86	297	234	98	91	74	69	43	40	62
4	183	64	85	357	234	87	89	75	64	42	41	56
5	179	65	83	324	124	81	88	74	64	41	36	52
6	176	68	81	227	100	80	86	74	63	39	35	51
7	125	70	84	271	100	79	85	71	67	41	36	52
8	80	69	85	317	103	80	84	125	74	40	35	52
9	76	71	86	310	99	79	83	320	70	41	36	51
10	77	72	84	375	97	79	82	348	70	40	37	47
11	78	79	77	420	91	84	80	331	67	42	40	50
12	77	140	77	387	82	87	84	233	67	44	40	50
13	80	124	77	143	94	85	81	113	66	45	38	47
14	82	96	81	247	92	83	81	102	65	46	37	49
15	85	92	80	257	88	80	79	95	61	48	31	51
16	79	78	77	247	88	114	79	91	65	48	38	53
17	78	78	78	241	88	157	77	82	61	44	112	47
18	82	84	78	246	86	102	77	79	55	38	128	48
19	82	82	78	213	85	90	74	76	55	41	128	51
20	86	79	84	206	85	87	77	74	54	42	126	48
21	82	79	91	264	83	87	77	68	57	40	124	46
22	77	83	92	256	85	84	79	69	57	41	237	47
23	126	86	93	254	96	92	78	72	57	42	127	48
24	100	85	93	257	180	94	75	93	56	44	71	50
25	92	84	90	298	293	238	76	89	58	42	71	47
26	80	83	81	307	123	276	76	81	57	40	69	49
27	67	73	84	305	112	132	77	80	51	36	68	50
28	73	81	86	305	109	109	74	79	51	44	65	49
29	70	85	89	298	---	99	73	78	52	45	63	51
30	67	84	130	285	---	96	71	70	50	44	69	50
31	67	---	215	275	---	95	---	74	---	45	71	---
TOTAL	3168	2452	2772	8544	3570	3244	2421	3436	1846	1324	2132	1531
MEAN	102	81.7	89.4	276	128	105	80.7	111	61.5	42.7	68.8	51.0
MAX	196	140	215	420	293	276	95	348	74	50	237	66
MIN	67	64	77	106	82	79	71	68	50	36	31	46
AC-FT	6280	4860	5500	16950	7080	6430	4800	6820	3660	2630	4230	3040
CAL YR 1976 TOTAL	52609		MEAN 144	MAX 423	MIN 33	AC-FT 104300						
WTR YR 1977 TOTAL	36440		MEAN 99.8	MAX 420	MIN 31	AC-FT 72280						

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1967 to current year.

CHEMICAL ANALYSES: Water year 1967 to current year.

WATER TEMPERATURES: Water year 1970 to current year.

SEDIMENT RECORDS: Water year 1974 to current year.

PERIOD OF DAILY RECORD.--

CHLORIDE: October 1970 to September 1971.

SPECIFIC CONDUCTANCE: October 1969 to current year.

WATER TEMPERATURES: October 1969 to current year.

SEDIMENT RECORDS.--October 1973 to current year.

INSTRUMENTATION.--Water-quality monitor October 1970 to September 1971. Specific conductance recorder since October 1969. Temperature recorder since October 1969.

COOPERATION.--The letter "A" following a date indicates chemical-quality data furnished by California Department of Water Resources.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 1,830 micromhos Apr. 30, 1971; minimum, 316 micromhos Dec. 4, 1974.

WATER TEMPERATURES: Maximum, 36.0°C Sept. 4, 1972; minimum, 2.5°C Dec. 30, 1969.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,350 mg/l Aug. 22, 1977; minimum daily mean, 15 mg/l on several days in 1975.

SEDIMENT DISCHARGE: Maximum daily, 5,050 tons (4,580 tonnes) Jan. 8, 1974; minimum daily, 5.0 tons (4.5 tonnes) Feb. 13, 1975.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 1,400 micromhos Jan. 12; minimum, 366 micromhos Jan. 3.

WATER TEMPERATURES: Maximum, 28.0°C Aug. 3; minimum, 7.0°C Dec. 28, Jan. 16.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,350 mg/l Aug. 22; minimum daily mean, 20 mg/l Jan. 12.

SEDIMENT DISCHARGE: Maximum daily, 1,210 tons (1,100 tonnes) Aug. 22; minimum daily, 9.6 tons (8.7 tonnes) May 7.

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	DIS-SOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	TOTAL NON-FILTERABLE RESIDUE (MG/L)
OCT										
01...	0945	194	--	--	--	--	--	--	--	--
05...A	1430	182	800	7.9	22.8	472	--	.64	232	381
06...	0930	182	--	--	--	--	--	--	--	--
07...	1110	120	989	7.8	19.0	593	599	.81	192	--
26...	1300	83	--	--	--	--	--	--	--	--
27...A	1520	74	1180	8.1	17.8	681	--	.93	136	240
29...	0945	68	--	--	--	--	--	--	--	--
NOV										
12...	1000	146	--	--	--	--	--	--	--	--
12...	1215	200	--	--	15.5	--	--	--	--	--
19...	0930	84	1140	7.8	14.0	734	734	1.00	166	--
DEC										
03...A	0930	90	1200	7.7	10.0	713	--	.97	173	292
13...	1000	81	1090	7.5	9.5	717	698	.98	157	--
JAN										
04...	1010	362	--	--	11.0	--	--	--	--	--
07...	1530	322	--	--	9.5	--	--	--	--	--
11...	1000	439	--	--	--	--	--	--	--	--
13...A	1255	339	1280	7.7	12.8	781	--	1.06	715	460
14...	0930	236	837	7.6	8.5	521	516	.71	332	--
20...A	1035	242	850	7.6	11.7	--	--	--	--	--
28...	1200	304	--	--	--	--	--	--	--	--
FEB										
02...A	0830	245	880	7.4	8.3	488	--	.66	323	--
03...	0900	236	806	7.8	9.0	478	483	.65	305	--
08...	1030	108	--	--	--	--	--	--	--	--
MAR										
01...A	1015	114	1200	7.7	18.3	762	--	1.04	235	171
29...	1215	101	1170	8.0	16.0	710	720	.97	194	--
APR										
01...A	1140	101	1230	8.0	15.6	734	--	1.00	200	58
01...	1330	95	--	--	17.0	--	--	--	--	--
13...	1030	88	--	--	15.5	--	--	--	--	--
26...	1245	83	1150	7.7	18.5	689	683	.94	154	--
27...A	0945	84	1200	7.7	16.7	749	--	1.02	170	86
MAY										
02...	1230	79	--	--	17.5	--	--	--	--	--
11...	0950	336	--	--	16.0	--	--	--	--	--
11...	1000	336	701	7.4	17.0	436	419	.59	396	--
19...	1115	84	--	--	16.0	--	--	--	--	--

11074000 SANTA ANA RIVER BELOW PRADO DAM, CA--Continued

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	PH (UNITS)	DIS- SOLVED SODIUM (NA) (MG/L)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	ALKA- LITY AS CACO3 (MG/L)	CARBON DIOXIDE (CO2) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)
OCT											
05... A	7.9	77	42	2.3	6.0	190	0	160	3.8	81	90
07...	7.8	92	41	2.4	7.7	235	0	193	6.0	98	110
27... A	8.1	110	41	2.6	10	290	0	240	3.7	120	120
NOV											
19...	7.8	110	40	2.6	12	296	0	243	7.5	130	130
DEC											
03... A	7.7	110	40	2.6	9.0	280	0	230	8.9	130	130
13...	7.5	100	39	2.4	8.7	281	0	230	14	120	120
JAN											
13... A	7.7	110	39	2.5	8.0	320	0	260	10	140	140
14...	7.6	82	42	2.3	7.5	203	0	167	8.2	86	100
20... A	7.6	--	--	--	--	--	--	--	--	--	--
FEB											
02... A	7.4	81	43	2.3	5.0	200	0	160	13	75	100
03...	7.8	80	43	2.3	6.3	189	0	160	4.8	74	110
MAR											
01... A	7.7	100	38	2.3	7.0	310	0	260	9.9	120	120
29...	8.0	110	40	2.6	8.3	320	0	260	5.1	130	130
APR											
01... A	8.0	110	40	2.6	9.0	330	0	270	5.3	120	120
26...	7.7	110	42	2.7	9.0	290	0	240	9.3	110	130
27... A	7.7	110	41	2.6	9.0	320	0	270	10	120	120
MAY											
11...	7.4	69	42	2.1	7.5	170	0	140	11	72	75
23... A	7.7	100	38	2.3	8.0	320	0	260	10	120	120
24...	7.7	120	52	3.4	8.9	260	0	210	8.3	110	110
JUN											
13... A	7.9	100	39	2.4	8.0	280	0	220	5.6	120	120
22...	7.6	110	41	2.6	8.8	270	0	220	11	130	130
JUL											
27...	7.4	110	41	2.6	8.8	270	0	220	17	140	130
27... A	8.1	110	40	2.6	8.0	280	0	230	3.6	140	130
AUG											
23...	7.5	110	40	2.6	10	300	0	250	15	160	150
SEP											
01... A	7.9	--	--	--	--	--	--	--	--	--	--
23...	7.7	90	36	2.1	8.5	280	0	230	8.9	110	120
26... A	7.8	--	--	--	--	--	--	--	--	--	--

DATE	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SiO2) (MG/L)	TOTAL NITRATE (N) (MG/L)	DIS- SOLVED NITRATE (N) (MG/L)	DIS- SOLVED NITRATE (NO3) (MG/L)	TOTAL NITRITE (N) (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL ORGANIC NITRO- GEN (N) (MG/L)
OCT										
05... A	.7	--	--	5.4	24	--	--	--	--	--
07...	.5	23	--	--	--	--	11	--	--	--
27... A	1.2	--	--	11	48	--	--	9.9	3.1	2.3
NOV										
19...	.6	25	--	--	--	--	6.6	12	.01	3.3
DEC										
03... A	.8	--	--	9.5	42	--	--	--	--	--
13...	.7	27	--	--	--	--	11	12	5.0	1.0
JAN										
13... A	1.0	--	--	9.5	42	--	--	--	--	--
14...	.5	19	--	--	--	--	6.5	7.0	3.1	.50
20... A	--	--	4.7	--	--	.17	--	--	2.6	.96
FEB										
02... A	.5	--	--	5.0	22	--	--	--	--	--
03...	.4	16	--	--	--	--	5.5	5.3	2.3	1.0
MAR										
01... A	.9	--	--	12	51	--	--	--	--	--
29...	.7	26	--	--	--	--	5.0	5.0	3.2	4.2
APR										
01... A	.9	--	6.2	6.3	28	.20	--	--	3.5	1.7
26...	.8	29	--	--	--	--	5.6	4.9	6.9	1.0
27... A	.9	--	5.0	5.0	22	.14	--	--	5.6	1.0
MAY										
11...	.6	15	--	--	--	--	2.9	4.8	1.6	1.9
23... A	.9	--	--	5.9	26	--	--	--	--	--
24...	.7	25	--	--	--	--	5.8	9.6	4.1	.90
JUN										
13... A	.9	--	--	11	49	--	--	--	--	--
22...	.7	27	--	--	--	--	6.5	--	4.5	.60
JUL										
27...	.7	28	--	--	--	--	5.5	.09	4.9	17
27... A	.7	--	5.6	7.7	34	.35	--	--	3.2	.94
AUG										
23...	.7	39	--	--	--	--	4.0	.01	4.3	6.7
SEP										
01... A	--	--	4.9	--	--	.24	--	--	4.8	.06
23...	.8	28	--	--	--	--	7.0	--	3.6	.00
26... A	--	--	--	8.0	35	--	--	--	2.9	.65

## SANTA ANA RIVER BASIN

11074000 SANTA ANA RIVER BELOW PRADO DAM, CA--Continued

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPECIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DIS- SOLVED SOLIDS (TONS PER AC-FT)	DIS- SOLVED SOLIDS (TONS PER DAY)	TOTAL NON- FILT- RABLE RESIDUE (MG/L)
MAY										
20...	1110	81	--	--	16.5	--	--	--	--	--
20...	1245	81	--	--	19.0	--	--	--	--	--
23... A	0830	74	1150	7.7	16.7	670	--	.91	134	127
24... A	1245	93	1070	7.7	17.0	670	624	.91	168	--
JUN										
01...	1500	74	--	--	24.0	--	--	--	--	--
13... A	1305	90	1120	7.9	19.4	689	--	.94	167	--
22...	1215	63	1130	7.6	21.5	680	659	.92	116	--
27...	1230	56	--	--	23.0	--	--	--	--	--
30...	1330	57	--	--	23.5	--	--	--	--	--
JUL										
05...	1030	48	--	--	--	--	--	--	--	--
12...	1615	48	--	--	24.5	--	--	--	--	--
27...	1230	45	1150	7.4	23.0	722	681	.98	87.7	--
27... A	1650	36	1210	8.1	26.7	743	--	1.01	72.2	140
AUG										
03...	1400	48	--	--	25.0	--	--	--	--	--
10...	0945	41	--	--	--	--	--	--	--	--
18...	0930	124	--	--	--	--	--	--	--	--
23...	1130	82	1180	7.5	22.5	754	755	1.03	167	--
SEP										
01... A	1050	74	1090	7.9	20.0	--	--	--	--	--
01... A	1205	74	--	--	--	--	--	--	--	--
01... A	1215	74	--	--	--	--	--	--	--	--
23...	1200	59	1130	7.7	18.5	682	619	.93	109	--
26... A	1210	59	1130	7.8	20.6	--	--	--	--	--

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	CHEM- ICAL OXYGEN DEMAND (HIGH LEVEL) (MG/L)	FECAL COLI- FORM (7UM-MF (COL./ 100 ML)	FECAL STREP- TOCOCICI KF AGAR (COL. PER 100 ML)	HARD- NESS (CA, MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)
OCT											
05... A	1430	182	40	6.9	--	--	--	220	64	57	19
07...	1110	120	90	--	83	81300	210	280	88	81	19
27... A	1520	74	100	6.5	--	--	--	330	92	92	25
NOV											
19...	0930	84	30	--	50	460	220	340	98	97	24
DEC											
03... A	0930	90	60	8.8	--	--	--	340	110	95	26
13...	1000	81	30	--	38	110	100	330	100	95	23
JAN											
13... A	1255	339	120	8.2	--	--	--	380	120	100	29
14...	0930	236	60	--	35	290	270	240	72	66	18
20... A	1035	242	--	9.4	--	--	--	--	--	--	--
FEB											
02... A	0830	245	40	9.9	--	--	--	220	56	59	19
03...	0900	236	30	--	18	150	893	220	66	57	19
MAR											
01... A	1015	114	55	8.7	--	--	--	350	96	95	27
29...	1215	101	35	--	71	300	700	350	90	100	25
APR											
01... A	1140	101	25	9.3	--	--	--	340	69	92	28
26...	1245	83	30	--	52	560	770	320	85	93	22
27... A	0945	84	35	7.0	--	--	--	340	77	93	25
MAY											
11...	1000	336	100	--	71	--	--	200	59	58	13
23... A	0830	74	50	7.0	--	--	--	340	77	92	28
24...	1245	93	35	--	79	--	81500	230	19	55	23
JUN											
13... A	1305	90	40	7.4	--	--	--	330	100	93	24
22...	1215	63	270	--	78	380	1400	330	110	97	22
JUL											
27...	1230	45	60	--	31	8170	1600	330	110	94	23
27... A	1650	36	35	5.5	--	--	--	350	120	97	26
AUG											
23...	1130	82	160	--	62	>5000	85200	350	100	100	24
SEP											
01... A	1050	74	--	7.1	--	--	--	--	--	--	--
23...	1200	59	40	--	40	>4000	1600	340	110	100	23
26... A	1210	59	--	7.6	--	--	--	--	--	--	--

## 11074000 SANTA ANA RIVER BELOW PRADO DAM, CA--Continued

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TOTAL KJEL- DAHL- NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (NO3) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	DIS- SOLVED ORTHO- PHOS- PHORUS (P) (MG/L)	DIS- SOLVED ORTHO- PHOS- PHATE (PO4) (MG/L)	DIS- SOLVED BORON (B) (UG/L)	TOTAL IRON (FE) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)	TOTAL ORGANIC CARBON (C) (MG/L)
OCT										
05...A	--	--	--	--	2.0	6.1	410	--	--	--
07...	5.4	16	73	3.4	2.4	7.4	480	15000	40	22
27...A	--	--	--	--	3.6	11	570	--	--	--
NOV										
19...	3.3	11	49	4.8	3.2	9.8	500	--	850	14
DEC										
03...A	--	--	--	--	1.6	4.9	570	--	--	--
13...	6.0	17	75	4.0	3.6	11	560	--	730	10
JAN										
13...A	--	--	--	--	3.2	9.8	560	--	--	--
14...	3.6	10	45	2.3	1.7	5.2	380	7500	50	13
20...A	--	--	--	2.5	1.7	5.2	--	--	--	--
FEB										
02...A	--	--	--	--	1.7	5.2	330	--	--	--
03...	3.3	8.8	39	1.6	1.2	3.7	290	--	120	9.5
MAR										
01...A	--	--	--	--	3.8	12	510	--	--	--
29...	7.4	12	55	4.0	3.2	9.8	500	--	40	14
APR										
01...A	--	--	--	4.9	3.4	10	680	--	--	--
26...	7.9	14	60	4.8	4.4	14	630	2500	50	16
27...A	--	--	--	13	5.5	17	580	--	--	--
MAY										
11...	3.5	6.4	28	1.6	1.1	3.4	290	6100	50	17
23...A	--	--	--	--	--	--	500	--	--	14
24...	5.0	11	48	3.7	.00	.00	490	--	50	18
JUN										
13...A	--	--	--	--	--	--	480	--	--	--
22...	5.1	12	51	5.5	--	--	570	--	40	22
JUL										
27...	22	28	120	6.2	4.0	12	630	8300	40	15
27...A	--	--	--	4.9	2.9	8.9	420	--	--	--
AUG										
23...	11	15	66	6.9	4.1	13	600	--	50	19
SEP										
01...A	--	--	--	4.2	3.0	9.2	--	--	--	--
23...	3.2	10	45	9.3	--	--	630	--	60	--
26...A	--	--	--	4.9	3.8	12	--	--	--	--

DATE	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL ORGANIC NITRO- GEN (N) (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (NO3) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	DIS- SOLVED ORTHO- PHOS- PHORUS (P) (MG/L)	DIS- SOLVED ORTHO- PHOS- PHATE (PO4) (MG/L)	DIS- SOLVED BORON (B) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)
OCT												
13...	4.0	4.0	1.9	1.3	3.2	7.2	32	.97	.51	1.6	1700	60
NOV												
10...	4.2	4.3	2.6	1.2	3.8	8.0	35	.93	.56	1.7	1800	120
JAN												
11...	5.3	4.6	3.1	.70	3.8	9.1	40	.67	.51	1.6	1800	50
MAR												
22...	4.4	4.4	2.1	.10	2.2	6.6	29	.88	.36	1.1	1600	30
APR												
19...	1.9	1.9	1.7	1.7	3.4	5.3	23	.50	.59	1.8	1400	100
MAY												
17...	2.2	2.1	1.6	2.1	3.7	5.9	26	.89	.28	.86	1600	20
JUN												
07...	.65	.71	2.0	2.6	4.6	5.3	23	1.0	.43	1.3	1600	80
JUL												
12...	.97	1.1	2.1	2.1	4.2	5.2	23	.99	.42	1.3	1600	50
AUG												
23...	1.8	1.8	1.6	7.3	8.9	11	47	1.9	.17	.52	1600	50
SEP												
13...	2.5	2.4	.77	1.6	2.4	4.9	22	.61	.15	.46	2100	20

## SANTA ANA RIVER BASIN

11074000 SANTA ANA RIVER BELOW PRADO DAM, CA--Continued

DATE	SUS- PENDE D MERCURY (HG) (UG/L)	DIS- SOLVED MERCURY (HG) (UG/L)	TOTAL SELE- NIUM (SE) (UG/L)	SUS- PENDE D SELE- NIUM (SE) (UG/L)	DIS- SOLVED SELE- NIUM (SE) (UG/L)	TOTAL SILVER (AG) (UG/L)	TOTAL ZINC (ZN) (UG/L)	SUS- PENDE D ZINC (ZN) (UG/L)	DIS- SOLVED ZINC (ZN) (UG/L)	CYANIDE (CN) (MG/L)	METHY- LENE BLUE ACTIVE SUB- STANCE (MG/L)
OCT 07...	.0	.0	1	0	1	<10	180	150	30	.02	.00
JAN 14...	.0	.2	1	0	1	<10	80	60	20	--	--
APR 26...	.0	.0	1	0	1	<10	60	30	30	.01	.50
MAY 11...	.0	.0	0	0	0	<10	60	30	30	.01	.20
JUL 27...	.0	.2	0	--	1	<10	90	60	30	.02	.20

DATE	SUS- PENDE D COBALT (CO) (UG/L)	DIS- SOLVED COBALT (CO) (UG/L)	TOTAL COPPER (CU) (UG/L)	SUS- PENDE D COPPER (CU) (UG/L)	DIS- SOLVED COPPER (CU) (UG/L)	TOTAL LEAD (PB) (UG/L)	SUS- PENDE D LEAD (PB) (UG/L)	DIS- SOLVED LEAD (PB) (UG/L)	TOTAL MAN- GANESE (MN) (UG/L)	SUS- PENDE D MAN- GANESE (MN) (UG/L)	DIS- SOLVED MAN- GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)
OCT 07...	<50	0	50	47	3	<100	<100	0	490	320	170	.0
JAN 14...	<50	0	20	19	1	<100	<95	5	350	170	180	.1
APR 26...	<49	1	10	9	1	<100	<98	2	190	80	110	.0
MAY 11...	<50	0	20	19	1	<100	<94	6	210	150	60	.0
JUL 27...	<50	0	30	27	3	100	95	5	260	180	80	.1

11074000 SANTA ANA RIVER BELOW PRADO DAM, CA--Continued

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	TOTAL ALDRIN (UG/L)	TOTAL ATRA- ZINE (UG/L)	TOTAL CHLOR- DANE (UG/L)	TOTAL DDD (UG/L)	TOTAL DDE (UG/L)	TOTAL DDT (UG/L)	TOTAL DI- AZINON (UG/L)	TOTAL DI- ELDRIN (UG/L)	TOTAL ENDO- SULFAN (UG/L)
OCT 13...	0915	.00	--	.1	.00	.01	.00	.02	.01	--
JAN 11...	0930	.00	.00	.1	.01	.01	.06	.07	.01	.00
MAR 22...	1250	.00	.00	.0	.01	.01	.05	.47	.01	.01
APR 19...	0900	.00	.00	.0	.02	.01	.02	.18	.01	.01
MAY 17...	0900	.00	.00	.0	.03	.01	.03	.09	.01	.00
JUN 07...	0700	.00	.00	.1	.08	.02	.31	.28	.03	.00
JUL 12...	0600	.00	.00	.0	.02	.01	.02	.03	.01	.00
AUG 23...	0700	.00	.00	.0	.02	.02	.01	.05	.01	.01
SEP 13...	0700	.00	.00	.0	.01	.01	.01	.12	.01	.03

DATE	TIME	TOTAL ARSENIC (AS) (UG/L)	SUS- PENDED ARSENIC (AS) (UG/L)	DIS- SOLVED ARSENIC (AS) (UG/L)	TOTAL BARIUM (BA) (UG/L)	TOTAL CAD- MIUM (CD) (UG/L)	SUS- PENDED CAD- MIUM (CD) (UG/L)	DIS- SOLVED CAD- MIUM (CD) (UG/L)	TOTAL CHRO- MIUM (CR) (UG/L)	SUS- PENDED CHRO- MIUM (CR) (UG/L)	DIS- SOLVED CHRO- MIUM (CR) (UG/L)	TOTAL COBALT (CO) (UG/L)
OCT 07...	1110	9	9	0	--	10	10	0	30	30	0	<50
JAN 14...	0930	6	2	4	--	<10	<9	1	20	20	0	<50
APR 26...	1245	4	1	3	0	10	8	2	10	10	0	<50
MAY 11...	1000	6	2	4	0	<10	<8	2	0	0	0	<50
JUL 27...	1230	6	2	4	500	<10	<8	2	15	5	10	<50

## SANTA ANA RIVER BASIN

11074000 SANTA ANA RIVER BELOW PRADO DAM, CA--Continued  
 CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	TOTAL PCB (UG/L)	TOTAL ALDRIN (UG/L)	ALDRIN IN BOTTOM MA- TERIAL (UG/KG)	TOTAL ATRA- ZINE (UG/L)	ATRA- ZINE IN BOTTOM MATERI- AL (UG/ KG DRY SOLIDS)	TOTAL CHLOR- DANE (UG/L)	CHLOR- DANE IN BOTTOM MA- TERIAL (UG/KG)	TOTAL DDD (UG/L)	P,P' DDD IN BOTTOM MA- TERIAL (UG/KG)	TOTAL DDE (UG/L)
OCT 07...	1110	ND	ND	--	--	--	ND	--	.01	--	.01
NOV 19...	1100	--	ND	ND	ND	ND	ND	30	ND	4.1	ND
JAN 14...	0930	ND	ND	--	--	--	ND	--	ND	--	.01
MAY 24...	1340	--	ND	ND	ND	ND	ND	88	ND	53	ND

DATE	P,P' DDE IN BOTTOM MA- TERIAL (UG/KG)	TOTAL DDT (UG/L)	P,P' DDT IN BOTTOM MA- TERIAL (UG/KG)	TOTAL DI- AZINON (UG/L)	TOTAL DI- ELDRIN (UG/L)	DI- ELDRIN IN BOTTOM MA- TERIAL (UG/KG)	TOTAL ENDRIN (UG/L)	ENDRIN IN BOTTOM MA- TERIAL (UG/KG)	TOTAL ETHION (UG/L)	TOTAL HEPTA- CHLOR (UG/L)	HEPTA- CHLOR IN BOTTOM MA- TERIAL (UG/KG)
OCT 07...	--	.01	--	ND	ND	--	ND	--	ND	ND	--
NOV 19...	18	ND	6.7	ND	ND	7.4	ND	ND	ND	ND	ND
JAN 14...	--	.01	--	.04	ND	--	ND	--	ND	ND	--
MAY 24...	76	ND	23	ND	ND	7.3	ND	ND	ND	ND	ND

DATE	TOTAL HEPTA- CHLOR EPOXIDE (UG/L)	HEPTA- CHLOR EPOXIDE IN BOT- TOM MA- TERIAL (UG/KG)	TOTAL LINDANE (UG/L)	LINDANE IN BOTTOM MA- TERIAL (UG/KG)	TOTAL MALA- THION (UG/L)	TOTAL METH- OXY- CHLOR (UG/L)	METHOX- YCHLOR IN BOT- TOM MA- TERIAL (UG/KG)	TOTAL METHYL PARA- THION (UG/L)	TOTAL METHYL TRI- THION (UG/L)	TOTAL PARA- THION (UG/L)	POLY- CHLO- RINATED NAPH- THA- LENES (UG/L)
OCT 07...	ND	--	.03	--	ND	--	--	ND	ND	ND	ND
NOV 19...	ND	ND	.01	ND	ND	ND	ND	ND	ND	ND	--
JAN 14...	ND	--	.01	--	ND	--	--	ND	ND	ND	ND
MAY 24...	.01	ND	ND	ND	ND	ND	ND	ND	ND	ND	--

DATE	SIMA- ZINE TOTAL COUL- SON COND. (UG/L)	SIMA- ZINE IN BOTTOM MATERI- AL (UG/ KG DRY SOLIDS)	TOTAL TOX- APHENE (UG/L)	TOX- APHENE IN BOTTOM MA- TERIAL (UG/KG)	TOTAL TRI- THION (UG/L)	TOTAL 2,4-D (UG/L)	2,4-D IN BOTTOM MA- TERIAL (UG/KG)	TOTAL 2,4,5-T (UG/L)	2,4,5-T IN BOTTOM MA- TERIAL (UG/KG)	TOTAL SILVEX (UG/L)	SILVEX IN BOTTOM MA- TERIAL (UG/KG)
OCT 07...	--	--	ND	--	ND	ND	--	ND	--	ND	--
NOV 19...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
JAN 14...	--	--	ND	--	ND	ND	--	ND	--	ND	--
MAY 24...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

ND Material specifically analyzed for but not detected.



## 11074000 SANTA ANA RIVER BELOW PRADO DAM, CA--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

## PHYTOPLANKTON

DATE TIME	OCT 7,76 1110	NOV 19,76 0930	DEC 13,76 1000	JAN 14,77 0930	FEB 3,77 0900
TOTAL CELLS/ML	590	1500	1100	170	13000
DIVERSITY: DIVISION	0.0	0.5	1.3	0.0	0.6
..CLASS	0.0	0.5	1.3	0.0	0.6
...ORDER	0.5	0.6	1.6	0.0	0.7
...FAMILY	1.8	1.6	1.9	1.3	0.8
....GENUS	1.9	1.6	2.0	1.8	0.8

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)										
..CHLOROPHYCEAE										
...CHLOROCOCCALES										
....OOCYSTACEAE										
.....ANKISTRODESMUS	--	-	--	-	--	-	--	-	*	0
.....CHODATELLA	--	-	--	-	--	-	--	-	--	-
.....SCENEDESMACEAE										
.....SCENEDESMUS	--	-	--	-	*	0	--	-	*	0
...VOLVOCELES										
...CHLAMYDOMONADACEAE										
...CHLAMYDOMONAS	--	-	--	-	12	1	--	-	--	-
...VOLVOCEACEAE										
....EUDORINA	--	-	--	-	--	-	--	-	250	2
CHRYSOPHYTA										
..BACILLARIOPHYCEAE										
...CENTRALES										
...COSCINODISCACEAE										
....CYCLOTELLA	66	11	11	1	58	5	--	-	*	0
.....MELOSIRA	--	-	22	1	--	-	--	-	--	-
...PENNALES										
...ACHNANTHACEAE									*	0
...ACHNANTHES	--	-	--	-	--	-	--	-	--	-
...CYMBELLACEAE										
...CYMBELLA	33	6	--	-	--	-	--	-	--	-
...DIATOMACEAE										
....DIATOMA	--	-	--	-	--	-	--	-	*	0
...FRAGILARIACEAE										
...ASTERIONELLA	--	-	--	-	--	-	83#	50	--	-
...FRAGILARIA	--	-	--	-	--	-	--	-	--	-
...SYNEDRA	330#	56	--	-	12	1	28#	17	--	-
...GOMPHONEMACEAE										
...GOMPHONEMA	--	-	--	-	--	-	--	-	--	-
...NAVICULACEAE										
...GYROSIGMA	--	-	--	-	12	1	--	-	--	-
...NAVICULA	98#	17	45	3	69	7	28#	17	400	3
...NITZSCHACEAE										
...DENTICULA	--	-	*	0	--	-	--	-	--	-
...HANTZSCHIA	33	6	--	-	--	-	--	-	--	-
...NITZSCHIA	33	6	110	7	150	14	28#	17	810	6
...SURIPELLACEAE										
....CYMATOPLEURA	--	-	--	-	--	-	--	-	*	0
.....SURIPELLA	--	-	--	-	23	2	*	0	*	0
CYANOPHYTA (BLUE-GREEN ALGAE)										
..CYANOPHYCEAE										
...CHROCOCCOCCALES										
...CHROCOCCOCCAEAE										
....ANACYSTIS	--	-	--	-	--	-	--	-	--	-
...HORMOGONALES										
...NOSTOCACEAE										
....ANABAENA	--	-	--	-	--	-	--	-	--	-
...OSCILLATORIACEAE										
...LYNGBYA	--	-	--	-	620#	59	--	-	--	-
...OSCILLATORIA	--	-	660#	43	--	-	--	-	11000#	87
...SCYTONEMACEAE										
....PLECTONEMA	--	-	670#	44	--	-	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)										
..EUGLENOPHYCEAE										
...EUGLENALES										
...EUGLENACEAE										
...EUGLENA	--	-	--	-	93	9	--	-	--	-
...PHACUS	--	-	--	-	--	-	--	-	--	-

See footnotes at end of table.

11074000 SANTA ANA RIVER BELOW PRADO DAM, CA--Continued

## QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

## PHYTOPLANKTON

DATE TIME	MAY 24,77 1245	JUN 22,77 1215	JUL 27,77 1230	AUG 23,77 1130	SEP 23,77 1200
TOTAL CELLS/ML	6300	2400	1800	2600	1400
DIVERSITY: DIVISION	1.2	1.0	1.0	1.3	0.3
..CLASS	1.2	1.0	1.0	1.3	0.3
..ORDER	1.4	1.0	1.1	1.3	0.3
...FAMILY	1.6	1.5	2.2	1.3	1.7
....GENUS	1.6	1.6	2.3	1.3	1.7

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)										
..CHLOROPHYCEAE										
...CHLOROCOCCALES										
....OOCYSTACEAE										
....ANKISTRODESMUS	* 0		--	-	--	-	--	-	--	-
....CHODATELLA	99 2		--	-	--	-	--	-	--	-
...SCENEDESMACEAE										
....SCENEDESMUS	50 1		--	-	--	-	--	-	--	-
...VOLVOCALES										
...CHLAMYDOMONADACEAE										
....CHLAMYDOMONAS	37 1		--	-	--	-	--	-	77 6	
...VOLVOCAEAE										
....EUDORINA	--	-	--	-	--	-	--	-	--	-
CHRYSOPHYTA										
..BACILLARIOPHYCEAE										
...CENTRALES										
...COSCINODISCACEAE										
....CYCLOTELLA	* 0		14 1		16 1		--	-	--	-
....MELOSIRA	--	-	--	-	--	-	--	-	--	-
...PENNALES										
...ACHNANTHACEAE										
....ACHNANTHES	--	-	--	-	--	-	--	-	--	-
...CYMBELLACEAE										
....CYMBELLA	--	-	--	-	32 2		--	-	--	-
...DIATOMACEAE										
....DIATOMA	--	-	--	-	--	-	--	-	--	-
...FRAGILARIACEAE										
....ASTERIONELLA	--	-	--	-	--	-	--	-	--	-
....FRAGILARIA	--	-	43 2		63 3		--	-	--	-
....SYNEDRA	* 0		--	-	16 1		--	-	--	-
...GOMPHONEMACEAE										
....GOMPHONEMA	--	-	--	-	110 6		--	-	230# 17	
...NAVICULACEAE										
....GYROSIGMA	* 0		14 1		--	-	--	-	--	-
....NAVICULA	87 1		240 10		140 8		--	-	390# 28	
...NITZSCHACEAE										
....DENTICULA	--	-	--	-	--	-	--	-	--	-
....HANTZSCHIA	--	-	--	-	32 2		--	-	--	-
...NITZSCHIA	500 8		800# 33		960# 53		570# 22		690# 50	
...SURIPELLACEAE										
....CYMATOPELURA	--	-	--	-	--	-	--	-	--	-

....SURIPELLA	62 1		14 1		47 3		--	-	--	-
---------------	------	--	------	--	------	--	----	---	----	---

## CYANOPHYTA (BLUE-GREEN ALGAE)

..CYANOPHYCEAE										
...CHROCOCCOCCALES										
....CHROCOCCOCCAEAE										
....ANACYSTIS	250 4		--	-	--	-	--	-	--	-
...HORMOGONALES										
...NOSTOCACEAE										
....ANABAENA	--	-	--	-	--	-	1700# 65		--	-
...OSCILLATORIACEAE										
....LYNGBYA	--	-	--	-	--	-	--	-	--	-
...OSCILLATORIA	4500# 71		1300# 53		250 14		--	-	--	-
...SCYTONEMACEAE										
....PLECTONEMA	--	-	--	-	--	-	--	-	--	-

## EUGLENOPHYTA (EUGLENOIDS)

..EUGLENOPHYCEAE										
...EUGLENALES										
...EUGLENACEAE										
....EUGLENA	620 10		--	-	160 9		340 13		--	-
....PHACUS	74 1		--	-	--	-	--	-	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%

\* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

## 11074000 SANTA ANA RIVER BELOW PRADO DAM, CA--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	942	802	815	1300	1180	1230	1170	1160	1170	1120	387	759
2	947	819	888	1200	1160	1180	1190	1190	1190	1190	1100	1160
3	849	785	825	1190	1160	1180	1200	1180	1190	1170	366	724
4	822	766	797	1200	1180	1190	1180	1170	1180	890	692	781
5	800	752	779	1190	1160	1180	1180	1160	1170	1150	920	1040
6	787	731	766	1240	1190	1200	1180	1130	1150	1140	598	765
7	1030	755	910	1250	1170	1210	1170	1140	1150	756	578	670
8	1090	1030	1060	1200	1160	1170	1180	1150	1160	589	535	553
9	1090	1080	1080	1180	1170	1170	1170	1140	1160	661	539	587
10	1100	1080	1090	1220	1170	1190	1170	1130	1150	828	668	740
11	1110	1080	1090	1190	1160	1180	1170	1150	1160	1040	800	931
12	1150	1090	1110	1310	862	1070	1160	1140	1150	1400	1060	1180
13	1120	1090	1110	1140	1040	1080	1160	1130	1140	1330	921	1210
14	1140	1110	1130	1190	1160	1170	1150	1140	1140	908	858	881
15	1130	1110	1120	1190	1150	1160	1160	1140	1150	909	851	879
16	1210	1110	1150	1180	1170	1170	1200	1140	1160	876	836	858
17	1220	1120	1160	1210	1170	1190	1180	1150	1160	852	824	839
18	1150	1100	1130	1200	1190	1200	1170	1160	1170	850	826	841
19	1180	1110	1130	1220	1200	1210	1170	1150	1160	1090	834	904
20	1170	1140	1160	1210	1190	1200	1180	1150	1160	1110	816	903
21	1170	1150	1160	1200	1180	1190	1190	1160	1170	820	738	797
22	1170	1150	1150	1200	1140	1170	1190	1180	1190	838	788	819
23	1160	907	981	1170	1150	1150	1190	1170	1180	835	783	816
24	1140	1020	1110	1160	1120	1150	1190	1180	1190	835	755	802
25	1170	1130	1150	1160	1140	1150	1180	1160	1170	787	767	780
26	1180	1160	1170	1150	1120	1130	1170	1160	1160	800	778	787
27	1190	1150	1170	1140	1120	1130	1170	1150	1160	799	763	784
28	1230	1150	1180	1150	1130	1140	1170	1150	1160	794	758	781
29	1230	1150	1180	1150	1140	1140	1160	1150	1160	809	783	796
30	1200	1190	1200	1150	1140	1150	1290	634	1060	818	776	798
31	1200	1180	1190	---	---	---	1120	659	986	811	737	787
MONTH	1230	731	1060	1310	862	1170	1290	634	1160	1400	366	837

DAY	FEBRUARY			MARCH			APRIL			MAY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	854	788	809	1180	1150	1170	1190	1160	1170	953	1130	1140
2	855	815	841	1180	1160	1170	1200	1160	1190	1160	1120	1130
3	854	806	829	1160	1140	1150	1190	1160	1170	1160	1100	1120
4	875	793	823	1160	1130	1150	1160	1120	1140	939	1130	1140
5	1140	882	1080	1190	1140	1160	1180	1120	1140	1120	1110	1130
6	1140	1130	1140	1170	1130	1140	1170	1150	1160	1120	1110	1120
7	1160	1110	1130	1150	1130	1140	1180	1160	1170	1130	1110	1120
8	1160	1120	1130	1150	1120	1140	1190	1160	1180	1130	589	937
9	1170	1140	1150	1180	1130	1150	1180	1150	1160	766	536	618
10	1180	1170	1170	1160	1130	1150	1160	1130	1140	640	568	594
11	1250	1180	1200	1180	1150	1160	1140	1110	1120	939	547	738
12	1250	1200	1240	1170	1130	1150	1160	1130	1140	1210	951	1100
13	1190	1180	1180	1170	1140	1150	1170	1150	1160	1180	1160	1170
14	1180	1150	1170	1180	1130	1140	1160	1140	1150	1170	1160	1170
15	1170	1150	1160	1190	1150	1170	1160	1130	1140	1180	1170	1170
16	1200	1170	1180	1210	764	1110	1130	1110	1120	1170	1140	1150
17	1200	1190	1190	1070	666	954	1150	1110	1130	1200	1150	1170
18	1200	1180	1200	1170	1080	1140	1180	1120	1140	1180	1150	1160
19	1190	1180	1190	1190	1160	1180	1170	1110	1130	1160	1130	1150
20	1220	1160	1180	1190	1150	1170	1140	1120	1130	940	1120	1130
21	1200	1150	1160	1180	1130	1150	1140	1120	1130	1150	1130	1140
22	1180	1150	1160	1210	1140	1160	1140	1110	1120	1120	1110	1130
23	1200	1130	1150	1150	1120	1130	1130	1120	1120	1110	1090	1110
24	1170	601	1000	1140	1110	1120	1130	1090	1110	1120	922	1020
25	1160	783	997	1120	585	833	1090	1080	1090	1090	951	1040
26	1210	1170	1200	1090	753	867	1150	1100	1120	1100	1080	1090
27	1210	1190	1200	1180	1130	1160	1140	1130	1140	1100	1070	1080
28	1190	1150	1170	1170	1150	1160	1180	1140	1150	1110	1090	1100
29	---	---	---	1200	1160	1180	1170	1150	1160	1100	1080	1090
30	---	---	---	1190	1180	1190	1170	1140	1160	1140	1080	1100
31	---	---	---	1190	1170	1180	---	---	---	1140	1070	1080
MONTH	1250	601	1110	1210	585	1130	1200	1080	1140	1210	536	1070

## SANTA ANA RIVER BASIN

11074000 SANTA ANA RIVER BELOW PRADO DAM, CA--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	JUNE			JULY			AUGUST			SEPTEMBER		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	1120	1070	1090	1180	1160	1180	1210	1150	1180	1200	1080	1120
2	1170	1100	1120	1180	1160	1170	1210	1140	1160	1220	1160	1180
3	1150	1110	1120	1170	1160	1160	1190	1150	1160	1210	1150	1170
4	1140	1120	1130	1180	1140	1160	1190	1150	1170	1190	1170	1180
5	1140	1110	1130	1200	1150	1170	1170	1160	1170	1180	1150	1170
6	1140	1120	1130	1240	1170	1200	1190	1160	1170	1190	1140	1160
7	1150	1120	1130	1210	1180	1200	1190	1160	1180	1200	1130	1160
8	1120	1100	1100	1210	1180	1190	1190	1160	1180	1170	1150	1150
9	1140	1110	1120	1200	1180	1190	1210	1140	1170	1190	1150	1160
10	1140	1100	1130	1200	1190	1200	1200	1160	1170	1200	1160	1170
11	1140	1100	1130	1190	1160	1170	1170	1160	1160	1180	1170	1170
12	1140	1110	1130	1210	1160	1170	1190	1160	1160	1200	1150	1170
13	1150	1110	1130	1200	1170	1180	1180	1150	1160	1220	1150	1180
14	1150	1120	1130	1170	1150	1160	1170	1150	1160	1210	1150	1170
15	1190	1110	1140	1160	1140	1150	1160	1130	1150	1170	1130	1160
16	1190	1120	1140	1160	1150	1150	1250	1100	1120	1150	1120	1130
17	1160	1110	1130	1160	1140	1150	1250	678	1100	1160	1140	1150
18	1160	1140	1150	1210	1140	1170	1120	853	929	1150	1100	1130
19	1150	1130	1140	1200	1150	1170	939	865	900	1100	1070	1090
20	1140	1120	1130	1180	1170	1170	971	883	913	1130	1090	1100
21	1160	1100	1120	1230	1170	1200	1050	969	999	1190	1140	1150
22	1160	1120	1140	1200	1180	1190	1130	1050	1070	1190	1120	1150
23	1140	1110	1120	1200	1170	1180	1220	1060	1150	1190	1120	1140
24	1150	1110	1120	1190	1170	1180	1160	1110	1140	1160	1150	1150
25	1150	1130	1140	1180	1150	1160	1150	1120	1130	1160	1130	1140
26	1150	1140	1140	1170	1140	1150	1150	1140	1140	1140	1110	1120
27	1160	1140	1150	1180	1150	1160	1160	1140	1150	1160	1110	1130
28	1200	1130	1160	1160	1140	1150	1140	1120	1130	1160	1140	1150
29	1200	1140	1160	1160	1140	1150	1130	1110	1120	1150	1130	1140
30	1180	1150	1160	1160	1150	1150	1110	1080	1090	1160	1140	1150
31	---	---	---	1160	1130	1150	1090	1080	1090	---	---	---
MONTH	1200	1070	1130	1240	1130	1170	1250	678	1120	1220	1070	1150
YEAR	1400	366	1100									

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	22.0	18.5	20.5	19.0	12.5	15.0	15.5	10.5	13.0	14.0	10.5	12.0
2	22.0	19.0	20.5	20.0	13.5	16.5	15.5	11.0	13.0	13.5	11.0	12.0
3	22.0	17.5	20.0	20.0	13.5	17.0	15.5	9.5	12.5	13.0	11.0	12.0
4	22.0	17.5	20.0	20.0	13.5	17.0	14.5	9.0	12.0	12.5	10.0	11.0
5	22.5	17.5	20.5	20.0	13.5	16.5	15.5	11.5	13.5	11.0	10.0	10.5
6	22.5	17.5	20.5	19.0	13.0	16.5	15.0	10.0	12.5	11.0	9.5	9.5
7	23.5	18.5	21.0	19.0	13.0	16.0	15.0	8.5	11.5	9.5	9.5	9.5
8	23.0	17.0	20.0	19.0	13.0	16.0	14.5	8.5	11.5	9.5	9.5	9.5
9	23.5	16.0	20.0	18.5	13.5	16.0	14.0	8.5	11.5	10.0	9.5	10.0
10	22.5	16.0	19.5	17.5	13.0	15.5	14.0	10.5	12.0	10.0	9.5	10.0
11	21.5	15.5	19.0	18.0	14.0	16.0	14.5	9.5	12.0	10.5	10.0	10.0
12	22.0	16.0	19.0	17.0	15.0	16.0	14.5	8.5	11.5	12.5	10.0	11.0
13	23.0	17.5	20.0	17.0	13.0	15.0	14.0	8.5	11.5	15.0	10.5	12.5
14	23.0	19.0	21.0	16.5	14.5	15.5	15.5	9.0	12.5	13.0	8.5	10.5
15	22.5	19.5	20.5	18.5	14.5	16.0	15.0	9.5	12.5	12.5	7.5	10.0
16	21.5	18.0	19.5	19.5	14.5	17.0	15.0	11.0	13.0	13.0	7.0	10.0
17	21.5	17.5	19.5	20.0	15.5	17.5	14.0	9.0	11.5	13.5	9.0	11.0
18	21.5	18.5	20.0	18.5	13.5	16.0	14.5	9.5	12.0	14.5	10.5	12.5
19	22.5	18.5	20.0	18.0	13.0	16.0	15.0	11.0	13.0	15.5	10.0	12.5
20	21.5	19.0	20.0	18.0	13.0	15.5	14.5	10.0	12.5	14.5	11.5	13.0
21	23.0	19.0	20.5	18.0	14.0	16.0	14.5	9.5	12.0	15.0	11.5	13.5
22	21.0	19.0	20.0	18.0	14.0	16.0	13.5	8.0	11.0	14.0	10.5	12.5
23	21.0	18.0	19.5	18.5	14.5	16.5	12.5	8.0	10.5	14.5	10.0	12.5
24	20.0	17.0	18.5	17.5	13.0	15.5	13.0	8.0	10.5	14.5	10.0	12.5
25	20.0	15.5	18.0	17.0	12.0	14.5	13.5	7.5	10.5	14.0	10.0	12.0
26	18.5	15.5	17.0	16.5	15.0	15.5	14.5	9.0	11.5	15.5	11.0	13.0
27	17.5	14.0	15.5	15.5	8.5	11.5	12.5	7.5	10.0	14.0	9.0	11.5
28	18.5	12.5	15.5	12.0	7.5	9.5	13.5	7.0	10.5	14.0	10.5	12.5
29	18.0	12.5	15.5	13.5	8.0	10.5	13.0	8.0	10.5	14.0	10.5	12.0
30	18.0	12.5	15.5	15.0	8.5	11.5	12.5	11.0	11.5	15.0	10.0	12.0
31	18.5	12.5	15.5	---	---	---	14.0	11.0	12.5	14.0	8.0	11.0
MONTH	23.5	12.5	19.0	20.0	7.5	15.5	15.5	7.0	12.0	15.5	7.0	11.5

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

	FEBRUARY			MARCH			APRIL			MAY		
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	13.5	10.0	11.5	17.5	11.5	14.0	19.0	12.0	15.5	22.5	16.5	19.5
2	14.5	9.0	11.5	17.5	9.0	12.5	17.5	13.5	15.0	22.5	14.5	18.5
3	15.0	9.0	12.0	17.0	8.5	12.5	21.0	12.5	16.0	22.0	15.5	19.0
4	15.0	8.0	11.5	17.0	9.5	13.0	21.5	12.0	16.5	23.0	16.0	19.0
5	16.5	9.0	12.5	19.0	10.0	14.0	23.0	13.0	17.5	20.5	16.5	18.5
6	17.0	10.0	13.5	19.0	9.5	14.0	23.5	14.0	18.5	18.5	15.5	17.0
7	18.5	10.5	14.0	18.0	10.0	14.0	23.0	15.0	18.5	19.5	13.5	16.0
8	17.0	11.0	14.0	19.5	12.5	15.5	22.5	16.5	18.5	17.0	15.0	16.0
9	17.0	11.0	14.0	19.5	12.5	16.0	21.0	15.0	17.5	15.0	14.0	14.0
10	18.5	11.0	14.5	19.0	11.5	15.0	21.5	13.5	17.5	14.5	14.0	14.5
11	19.0	10.5	14.5	18.5	9.5	13.5	19.5	14.0	16.5	16.0	15.0	15.5
12	19.5	11.0	15.0	19.0	9.5	14.0	22.5	13.5	17.5	17.0	15.5	16.5
13	20.0	11.5	15.5	19.0	12.0	15.0	21.5	14.5	18.0	21.0	15.0	17.5
14	19.0	11.5	15.0	18.5	10.0	14.0	23.0	16.5	19.0	18.0	15.0	17.0
15	20.5	12.0	16.0	18.0	9.0	13.5	23.0	15.0	18.5	19.0	16.5	17.5
16	20.5	12.0	16.0	16.0	11.5	13.0	23.0	16.5	19.0	21.5	16.0	18.0
17	20.0	12.0	16.0	18.0	9.0	13.0	23.0	17.0	19.0	21.0	14.0	17.5
18	20.0	12.5	16.0	19.0	10.5	14.5	22.5	16.5	19.0	21.5	14.0	17.5
19	20.5	14.0	16.5	19.5	10.5	14.5	23.0	16.0	19.5	22.5	14.5	18.5
20	20.0	13.0	16.5	20.0	11.0	15.5	22.5	14.0	18.5	23.5	15.0	19.0
21	19.5	13.0	16.5	22.0	12.0	16.5	22.5	14.0	18.0	23.5	16.0	20.0
22	20.0	15.0	17.0	21.0	12.5	16.5	22.5	14.5	18.5	23.0	17.5	19.5
23	15.0	12.0	13.5	19.0	14.5	16.5	23.5	14.5	19.0	18.5	16.5	17.5
24	14.5	10.5	13.0	18.0	14.0	15.5	23.5	14.5	18.5	19.5	15.5	17.5
25	16.0	9.5	12.0	14.0	10.5	11.5	23.0	14.5	18.5	21.0	16.0	18.0
26	18.0	9.5	13.5	17.0	10.5	13.0	22.5	15.0	18.5	22.5	14.5	18.5
27	19.0	10.5	14.5	19.5	11.5	15.5	21.5	16.0	18.5	23.5	16.0	19.5
28	19.5	11.0	15.0	20.0	14.0	16.5	22.0	17.0	19.0	23.5	16.5	19.5
29	---	---	---	19.5	11.5	15.5	22.5	15.5	19.0	24.0	17.0	20.0
30	---	---	---	19.0	11.0	14.5	22.0	16.0	19.0	24.5	16.5	20.5
31	---	---	---	18.5	10.5	14.5	---	---	---	25.5	18.0	21.5
MONTH	20.5	8.0	14.5	22.0	8.5	14.5	23.5	12.0	18.0	25.5	13.5	18.0
	JUNE			JULY			AUGUST			SEPTEMBER		
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	25.5	18.5	22.0	26.5	19.5	22.5	25.0	20.0	22.5	24.0	19.0	21.5
2	25.5	18.5	21.5	25.0	19.5	22.5	27.5	20.5	23.5	24.5	19.5	22.0
3	25.5	18.5	21.5	27.0	20.0	23.0	28.0	21.0	24.0	25.5	20.0	22.5
4	25.5	18.0	21.5	25.5	19.5	22.0	27.0	20.5	23.5	25.0	18.5	22.0
5	25.0	20.0	22.5	25.0	19.0	21.5	26.5	20.5	23.5	25.5	19.0	22.5
6	24.5	20.0	22.0	25.0	17.5	21.5	26.0	19.5	22.5	26.0	20.0	23.0
7	24.5	20.0	22.0	25.5	18.0	21.5	25.5	19.5	22.5	26.0	19.5	23.0
8	23.5	20.0	21.5	25.5	17.5	21.5	25.5	18.5	22.0	26.0	20.0	23.0
9	22.0	19.0	20.0	25.0	17.5	21.0	25.0	18.5	21.5	25.0	19.5	22.0
10	24.5	18.5	21.0	25.5	17.5	21.5	24.5	19.0	21.5	25.5	20.0	22.5
11	23.0	17.0	20.0	25.0	18.5	21.5	25.0	19.0	22.0	24.5	20.0	22.0
12	24.0	17.5	20.0	25.0	18.0	21.0	25.5	19.5	22.5	24.5	20.0	22.0
13	22.0	17.5	19.5	24.5	17.5	21.0	25.5	19.5	22.5	23.0	19.0	21.0
14	24.0	18.0	20.5	25.5	18.0	21.5	25.5	19.0	22.0	21.5	18.5	20.0
15	24.5	17.0	20.5	26.0	18.5	22.0	25.0	18.0	22.0	21.0	17.0	19.0
16	25.0	17.0	21.0	27.5	20.5	23.5	24.0	21.5	23.0	22.0	17.5	19.5
17	24.5	17.5	21.0	26.5	19.5	22.5	23.5	22.5	23.0	22.0	17.0	19.5
18	25.0	17.0	20.5	25.5	19.5	22.5	23.0	22.5	22.5	22.5	16.5	19.5
19	24.5	18.5	21.0	26.0	19.0	22.0	23.5	23.0	23.5	22.5	16.5	19.5
20	23.0	18.0	20.5	26.0	19.5	22.5	24.0	23.5	23.5	22.5	17.0	19.5
21	24.5	18.0	21.0	26.5	19.5	22.5	24.0	24.0	24.0	22.0	16.5	19.5
22	25.0	18.5	21.5	27.5	19.5	23.0	24.5	23.5	24.0	22.0	17.0	19.5
23	25.5	20.0	22.5	25.0	20.5	22.5	25.5	21.0	23.0	20.5	17.0	19.0
24	26.5	19.5	22.5	26.5	19.0	22.5	25.5	21.0	23.0	22.5	17.0	19.5
25	26.0	20.0	22.5	27.5	19.0	23.0	25.0	19.5	22.5	22.0	16.0	19.0
26	26.0	19.0	22.5	27.5	19.0	23.0	24.5	20.0	22.0	22.5	19.0	20.5
27	26.0	19.5	22.5	27.0	19.0	23.0	25.0	20.5	22.5	22.0	19.0	20.5
28	25.0	19.0	22.0	27.0	19.5	23.0	25.0	20.0	22.5	21.5	18.0	20.0
29	26.5	19.5	22.5	26.0	19.0	22.5	25.5	20.0	23.0	22.0	17.5	19.5
30	26.5	19.5	22.5	26.0	19.0	22.5	25.0	21.0	22.5	23.0	19.0	20.5
31	---	---	---	25.0	20.0	22.5	25.0	21.0	22.5	---	---	---
MONTH	26.5	17.0	21.5	27.5	17.5	22.0	28.0	18.0	22.5	26.0	16.0	21.0
YEAR	28.0	7.0	17.5									

## SANTA ANA RIVER BASIN

11074000 SANTA ANA RIVER BELOW PRADO DAM, CA--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	OCTOBER			NOVEMBER			DECEMBER		
	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	181	300	147	76	120	25	83	125	28
2	196	195	103	72	122	24	84	120	27
3	185	190	95	70	115	22	86	115	27
4	183	185	91	64	110	19	85	105	24
5	179	185	89	65	102	18	83	95	21
6	176	185	88	68	100	18	81	90	20
7	125	235	79	70	95	18	84	90	20
8	80	285	62	69	90	17	85	90	21
9	76	260	53	71	85	16	86	95	22
10	77	240	50	72	80	16	84	95	22
11	78	220	46	79	80	17	77	100	21
12	77	190	40	140	193	84	77	100	21
13	80	185	40	124	196	69	77	100	21
14	82	190	42	96	140	36	81	90	20
15	85	200	46	92	140	35	80	85	18
16	79	200	43	78	135	28	77	85	18
17	78	200	42	78	135	28	78	85	18
18	82	195	43	84	135	31	78	85	18
19	82	193	43	82	134	30	78	85	18
20	86	200	46	79	135	29	84	80	18
21	82	205	45	79	140	30	91	80	20
22	77	195	41	83	140	31	92	80	20
23	126	687	240	86	145	34	93	80	20
24	100	650	176	85	145	33	93	80	20
25	92	530	132	84	140	32	90	80	19
26	80	470	102	83	135	30	81	80	17
27	67	320	58	73	135	27	84	80	18
28	73	190	37	81	135	30	86	80	19
29	70	145	27	85	130	30	89	80	19
30	67	125	23	84	130	29	130	197	105
31	67	120	22	---	---	---	215	357	224
TOTAL	3168	---	2191	2452	---	886	2772	---	924
DAY	JANUARY			FEBRUARY			MARCH		
	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	249	420	299	277	56	42	107	173	50
2	106	260	74	242	95	62	103	166	46
3	297	612	510	234	110	69	98	160	42
4	357	450	434	234	85	54	87	154	36
5	324	360	315	124	70	23	81	151	33
6	227	305	187	100	68	18	80	148	32
7	271	265	194	100	90	24	79	145	31
8	317	215	184	103	105	29	80	142	31
9	310	140	117	99	104	28	79	123	26
10	375	60	61	97	103	27	79	105	22
11	420	30	34	91	102	25	84	88	20
12	387	20	21	82	108	24	87	80	19
13	143	72	32	94	115	29	85	80	18
14	247	212	137	92	121	30	83	80	18
15	257	140	97	88	125	30	80	80	17
16	247	135	90	88	125	30	114	147	59
17	241	130	85	88	125	30	157	253	123
18	246	125	83	86	125	29	102	105	29
19	213	110	63	85	120	28	90	102	25
20	206	110	62	85	117	27	87	104	24
21	264	116	83	83	112	25	87	119	28
22	256	75	52	85	105	24	84	130	29
23	254	60	41	96	105	27	92	123	31
24	257	55	38	180	280	181	94	113	29
25	298	52	42	293	464	395	238	497	361
26	307	50	41	123	230	76	276	350	261
27	305	49	40	112	200	60	132	280	100
28	305	48	40	109	185	54	109	240	71
29	298	50	40	---	---	---	99	115	31
30	285	52	40	---	---	---	96	100	26
31	275	54	40	---	---	---	95	95	24
TOTAL	8544	---	3576	3570	---	1500	3244	---	1692

11074000 SANTA ANA RIVER BELOW PRADO DAM, CA--Continued  
 SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	APRIL			MAY			JUNE		
	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	95	90	23	74	94	19	73	102	20
2	93	85	21	72	82	16	70	120	23
3	91	85	21	74	70	14	69	157	29
4	89	80	19	75	60	12	64	175	30
5	88	80	19	74	53	11	64	192	33
6	86	75	17	74	50	10	63	202	34
7	85	70	16	71	50	9.6	67	205	37
8	84	65	15	125	244	134	74	206	41
9	83	65	15	320	632	534	70	205	39
10	82	70	15	348	312	292	70	200	38
11	80	75	16	331	175	156	67	195	35
12	84	75	17	233	130	82	67	190	34
13	81	95	21	113	110	34	66	185	33
14	81	87	19	102	110	30	65	180	32
15	79	80	17	95	119	31	61	180	30
16	79	78	17	91	134	33	65	185	32
17	77	77	16	82	146	32	61	190	31
18	77	75	16	79	153	33	55	190	28
19	74	72	14	76	155	32	55	190	28
20	77	68	14	74	144	29	54	726	110
21	77	62	13	68	139	26	57	798	128
22	79	57	12	69	137	26	57	556	97
23	78	55	12	72	143	28	57	544	88
24	75	70	14	93	145	36	56	230	35
25	76	90	18	89	110	26	58	210	33
26	76	100	21	81	105	23	57	200	31
27	77	93	19	80	103	22	51	770	111
28	74	98	20	79	101	22	51	618	91
29	73	108	21	78	100	21	52	544	82
30	71	102	20	70	100	19	50	269	37
31	---	---	---	74	100	20	---	---	---
TOTAL	2421	---	518	3436	---	1812.6	1846	---	1450

DAY	JULY			AUGUST			SEPTEMBER		
	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	50	160	22	41	213	24	66	152	27
2	46	150	19	42	214	24	61	150	25
3	43	140	16	40	215	23	62	150	25
4	42	143	16	41	205	23	56	150	23
5	41	145	16	36	194	19	52	150	21
6	39	162	17	35	184	17	51	145	20
7	41	188	21	36	174	17	52	145	20
8	40	194	21	35	164	15	52	145	20
9	41	195	22	36	153	15	51	145	20
10	40	189	20	37	143	14	47	145	18
11	42	172	20	40	152	16	50	140	19
12	44	182	22	40	161	17	50	140	19
13	45	185	22	38	175	18	47	140	18
14	46	185	23	37	190	19	49	140	19
15	48	187	24	31	200	17	51	140	19
16	48	189	24	38	205	21	53	137	20
17	44	191	23	112	922	365	47	137	17
18	38	193	20	128	250	86	48	136	18
19	41	195	22	128	130	45	51	135	19
20	42	197	22	126	125	43	48	134	17
21	40	199	21	124	120	40	46	140	17
22	41	201	22	237	1350	1210	47	150	19
23	42	203	23	127	642	294	48	153	20
24	44	205	24	71	230	44	50	150	20
25	42	206	23	71	210	40	47	150	19
26	40	207	22	69	201	37	49	150	20
27	36	208	20	68	180	33	50	150	20
28	44	209	25	65	159	28	49	150	20
29	45	210	26	63	138	23	51	150	21
30	44	211	25	69	116	22	50	150	20
31	45	212	26	71	95	18	---	---	---
TOTAL	1324	---	669	2132	---	2627	1531	---	600
YEAR	36440.0		18445.6						

## SANTA ANA RIVER BASIN

11074000 SANTA ANA RIVER BELOW PRADO DAM, CA--Continued

## PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

			INSTAN- TANEOUS DIS- CHARGE (CFS)	SUS- PENDE SEDIM- ENT (MG/L)	SUS- PENDE SEDIM- ENT DIS- CHARGE (T/DAY)	SUS. SED. FALL DIAM. % FINER THAN .002 MM	SUS. SED. FALL DIAM. % FINER THAN .004 MM
DATE	TIME	TEMPER- ATURE (DEG C)					
OCT							
01...	0945	--	194	386	202	39	54
06...	0930	--	182	184	90	39	56
26...	1300	--	83	482	108	43	59
29...	0945	--	68	134	25	--	--
NOV							
12...	1000	--	146	222	88	32	44
12...	1215	15.5	200	444	240	35	48
19...	0930	14.0	84	135	31	--	--
DEC							
13...	1000	9.5	81	101	22	--	--
JAN							
04...	1010	11.0	362	460	450	--	--
07...	1530	9.5	322	265	230	--	--
11...	1000	--	439	31	37	--	--
14...	0930	8.5	236	199	127	36	52
28...	1200	--	304	47	39	--	--
FEB							
03...	0900	9.0	236	112	71	--	--
08...	1030	--	108	104	30	--	--
MAR							
29...	1215	16.0	101	226	62	--	--
APR							
01...	1330	17.0	95	162	42	--	--
13...	1030	15.5	88	97	23	--	--
26...	1245	18.5	83	101	23	--	--
MAY							
02...	1230	17.5	79	82	17	--	--
11...	0950	16.0	336	182	165	--	--
13...	1000	--	120	109	35	--	--
19...	1115	16.0	84	158	36	--	--
20...	1110	16.5	81	150	33	--	--
20...	1245	19.0	81	139	30	--	--
24...	1245	17.0	93	147	37	--	--
JUN							
01...	1500	24.0	74	101	20	--	--
22...	1215	21.5	63	1190	202	--	--
30...	1330	23.5	57	486	75	28	42
JUL							
05...	1030	--	48	144	19	--	--
12...	1615	24.5	48	181	23	--	--
	SUS. SED. FALL DIAM. % FINER THAN .008 MM	SUS. SED. FALL DIAM. % FINER THAN .016 MM	SUS. SED. FALL DIAM. % FINER THAN .031 MM	SUS. SED. FALL DIAM. % FINER THAN .062 MM	SUS. SED. FALL DIAM. % FINER THAN .125 MM	SUS. SED. FALL DIAM. % FINER THAN .250 MM	SUS. SED. FALL DIAM. % FINER THAN .500 MM
DATE							
OCT							
01...	69	84	91	99	100	--	--
06...	74	90	97	99	100	--	--
26...	79	95	99	100	--	--	--
29...	--	--	--	100	--	--	--
NOV							
12...	60	78	93	98	100	--	--
12...	60	74	87	93	99	100	--
19...	--	--	--	--	--	--	--
DEC							
13...	--	--	--	--	--	--	--
JAN							
04...	--	--	--	95	97	98	100
07...	--	--	--	93	96	99	100
11...	--	--	--	86	96	100	--
14...	71	87	94	96	99	100	--
28...	--	--	--	98	100	--	--
FEB							
03...	--	--	--	89	--	--	--
08...	--	--	--	97	99	100	--
MAR							
29...	--	--	--	72	--	--	--
APR							
01...	--	--	--	82	--	--	--
13...	--	--	--	78	--	--	--
26...	--	--	--	69	--	--	--
MAY							
02...	--	--	--	80	--	--	--
11...	--	--	--	83	--	--	--
13...	--	--	--	100	--	--	--
19...	--	--	--	87	--	--	--
20...	--	--	--	83	--	--	--
20...	--	--	--	94	--	--	--
24...	--	--	--	83	--	--	--
JUN							
01...	--	--	--	99	100	--	--
22...	--	--	--	80	--	--	--
30...	58	76	92	99	100	--	--
JUL							
05...	--	--	--	99	100	--	--
12...	--	--	--	81	--	--	--



11074000 SANTA ANA RIVER BELOW PRADO DAM, CA--Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	TEMPER- ATURE (DEG C)	INSTAN- TANEOUS DIS- CHARGE (CFS)	SUS- PENDE SEDIMENT (MG/L)	SUS- PENDE SEDIMENT DIS- CHARGE (T/DAY)	SUS. SED. FALL DIAM. % FINER THAN .002 MM	SUS. SED. FALL DIAM. % FINER THAN .004 MM
AUG							
03...	1400	25.0	48	215	28	--	--
10...	0945	--	41	143	16	--	--
18...	0930	--	124	145	49	--	--
23...	1130	22.5	82	551	122	--	--
SEP							
01...	1215	--	74	152	30	28	39

DATE	SUS. SED. FALL DIAM. % FINER THAN .008 MM	SUS. SED. FALL DIAM. % FINER THAN .016 MM	SUS. SED. FALL DIAM. % FINER THAN .031 MM	SUS. SED. FALL DIAM. % FINER THAN .062 MM	SUS. SED. FALL DIAM. % FINER THAN .125 MM	SUS. SED. FALL DIAM. % FINER THAN .250 MM	SUS. SED. FALL DIAM. % FINER THAN .500 MM
AUG							
03...	--	--	--	93	--	--	--
10...	--	--	--	99	100	--	--
18...	--	--	--	67	95	99	100
23...	--	--	--	92	--	--	--
SEP							
01...	55	72	87	95	98	100	--

## SANTA ANA RIVER BASIN

11075600 SANTA ANA RIVER AT IMPERIAL HIGHWAY, NEAR ANAHEIM, CA

LOCATION.--Lat 33°51'23", long 117°47'23", in Canon De Santa Ana, Orange County, on right bank 500 ft (152 m) upstream from State Highway 91, and 0.4 mi (0.6 km) south of Orangethorpe Avenue, and 9 mi (14 km) east of Anaheim, and 9.8 mi (15.8 km) downstream from Prado Dam.

DRAINAGE AREA.--1,544 mi<sup>2</sup> (3,999 km<sup>2</sup>), excludes 768 mi<sup>2</sup> (1,989 km<sup>2</sup>) above Lake Elsinore.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1973 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 282 ft (86 m), from topographic map. Prior to June 4, 1975, at datum 3.00 ft (0.914 m) higher.

REMARKS.--Records good. Natural flow affected by ground-water withdrawals, diversions, importation from Metropolitan Water District and California Aqueduct, municipal use, return flow from irrigation, Prado flood-control reservoir, capacity, 201,200 acre-ft (248 hm<sup>3</sup>) since 1940. See schematic diagram of Santa Ana River Basin.

COOPERATION.--Twenty-three discharge measurements were furnished by Orange County Environmental Management Agency.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,170 ft<sup>3</sup>/s (61.5 m<sup>3</sup>/s) Jan. 8, 1974, gage height, 3.02 ft (0.920 m); maximum gage height, 5.22 ft (1.591 m) Dec. 4, 1974, datum then in use; minimum daily discharge, 24 ft<sup>3</sup>/s (0.68 m<sup>3</sup>/s) Aug. 18, 1976.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 665 ft<sup>3</sup>/s (18.8 m<sup>3</sup>/s) Jan. 5, gage height, 6.13 ft (1.868 m); minimum daily, 29 ft<sup>3</sup>/s (0.82 m<sup>3</sup>/s) Aug. 15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	158	68	84	222	274	121	102	67	76	48	40	67
2	191	66	82	125	271	115	98	63	72	44	38	63
3	185	64	84	273	279	109	95	63	70	41	39	59
4	185	62	86	325	250	105	89	67	67	40	36	54
5	183	60	83	352	158	100	88	66	67	38	32	50
6	179	59	81	294	124	92	83	65	63	37	32	49
7	158	61	82	252	121	90	83	63	66	37	31	49
8	106	60	86	272	120	88	83	110	69	37	33	47
9	95	57	84	295	115	89	83	300	69	37	32	48
10	89	59	84	330	111	90	83	310	67	37	31	44
11	86	67	82	383	106	95	81	300	65	38	34	45
12	86	145	82	371	96	94	84	213	65	39	34	47
13	84	136	82	213	103	92	82	117	61	39	33	45
14	83	95	86	226	103	90	81	106	59	42	31	44
15	83	91	87	244	98	88	79	103	58	43	29	45
16	78	83	83	235	96	111	76	98	56	41	38	47
17	70	78	83	233	96	158	75	91	56	39	150	42
18	76	79	87	233	93	108	75	84	50	36	133	42
19	77	76	87	220	91	100	70	83	49	37	139	43
20	77	73	89	214	88	96	69	78	49	41	141	43
21	79	72	93	265	86	93	69	75	52	40	141	41
22	77	75	95	262	84	91	72	73	49	41	178	41
23	120	78	95	262	93	95	75	72	52	43	160	43
24	111	77	98	260	146	102	70	91	52	47	72	44
25	98	77	95	282	226	223	70	92	54	45	71	44
26	84	75	78	287	134	262	70	83	53	42	68	44
27	78	67	83	282	124	155	70	81	49	40	63	45
28	74	79	86	282	123	118	68	81	49	40	62	43
29	70	87	87	277	---	106	66	81	49	41	60	45
30	67	88	108	269	---	106	63	77	49	41	65	44
31	67	---	196	272	---	105	---	73	---	41	67	---
TOTAL	3254	2314	2798	8312	3809	3487	2352	3326	1762	1252	2113	1407
MEAN	105	77.1	90.3	268	136	112	78.4	107	58.7	40.4	68.2	46.9
MAX	191	145	196	383	279	262	102	310	76	48	178	67
MIN	67	57	78	125	84	88	63	63	49	36	29	41
AC-FT	6450	4590	5550	16490	7560	6920	4670	6600	3490	2480	4190	2790

CAL YR 1976 TOTAL 52182 MEAN 143 MAX 430 MIN 24 AC-FT 103500  
WTR YR 1977 TOTAL 36186 MEAN 99.1 MAX 383 MIN 29 AC-FT 71770

WATER-QUALITY RECORDS

WATER TEMPERATURES: October 1972 to current year.  
SEDIMENT RECORDS: October 1972 to current year.

SEDIMENT DISCHARGE: Maximum daily, 22,400 tons (20,300 tonnes) Jan. 8, 1974; minimum daily, 0.01 tons (0.01 tonnes) on several days in 1973.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,160 mg/l Jan. 3; minimum daily mean, 30 mg/l Aug. 9-15.  
SEDIMENT DISCHARGE: Maximum daily, 931 tons (845 tonnes) May 9; minimum daily, 2.3 tons (2.09 tonnes) Aug. 15.

[illegible]

11075600 SANTA ANA RIVER AT IMPERIAL HIGHWAY, NEAR ANAHEIM, CA--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	OCTOBER			NOVEMBER			DECEMBER		
	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	158	814	353	68	180	33	84	120	27
2	191	670	346	66	175	31	82	120	27
3	185	560	280	64	170	29	84	110	25
4	185	490	245	62	160	27	86	110	26
5	183	450	222	60	150	24	83	110	25
6	179	420	203	59	140	22	81	110	24
7	158	380	162	61	138	23	82	110	24
8	106	280	80	60	135	22	86	110	26
9	95	260	67	57	130	20	84	100	23
10	89	240	58	59	120	19	84	100	23
11	86	220	51	67	110	20	82	100	22
12	86	200	46	145	475	210	82	100	22
13	84	190	43	136	341	131	82	100	22
14	83	180	40	95	210	54	86	100	23
15	83	176	39	91	180	44	87	100	23
16	78	170	36	83	160	36	83	100	22
17	70	160	30	78	150	32	83	100	22
18	76	160	33	79	150	32	87	100	23
19	77	150	31	76	150	31	87	90	21
20	77	140	29	73	140	28	89	90	22
21	79	130	28	72	140	27	93	90	23
22	77	120	25	75	140	28	95	90	23
23	120	367	134	78	130	27	95	90	23
24	111	330	99	77	130	27	98	90	24
25	98	270	71	77	130	27	95	80	21
26	84	240	54	75	120	24	78	80	17
27	78	220	46	67	120	22	83	80	18
28	74	210	42	79	120	26	86	80	19
29	70	200	38	87	120	28	87	80	19
30	67	190	34	88	120	29	108	232	77
31	67	190	34	---	---	---	196	528	296
TOTAL	3254	---	2999	2314	---	1133	2798	---	1032

DAY	JANUARY			FEBRUARY			MARCH		
	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	222	548	359	274	300	222	121	355	116
2	125	286	105	271	230	168	115	350	109
3	273	1160	925	279	160	121	109	310	91
4	325	450	395	250	150	101	105	280	79
5	352	705	792	158	180	77	100	260	70
6	294	1010	850	124	250	84	92	250	62
7	252	618	423	121	260	85	90	250	61
8	272	666	400	120	240	78	88	240	57
9	295	310	247	115	230	71	89	230	55
10	330	350	312	111	220	66	90	220	53
11	383	440	455	106	210	60	95	210	54
12	371	490	491	96	200	52	94	200	51
13	213	700	403	103	240	67	92	190	47
14	226	669	401	103	230	64	90	170	41
15	244	500	329	98	220	58	88	160	38
16	235	390	247	96	210	54	111	247	87
17	233	370	233	96	200	52	158	422	187
18	233	350	220	93	190	48	108	270	79
19	220	330	196	91	180	44	100	230	62
20	214	325	188	88	170	40	96	200	52
21	265	270	193	86	170	39	93	200	50
22	262	210	149	84	160	36	91	180	44
23	262	170	120	93	210	53	95	170	44
24	260	150	105	146	769	350	102	160	44
25	282	180	137	226	892	545	223	948	604
26	287	190	147	134	500	181	262	400	283
27	282	170	129	124	390	131	155	300	126
28	282	150	114	123	360	120	118	260	83
29	277	140	105	---	---	---	106	230	66
30	269	150	109	---	---	---	106	200	57
31	272	260	191	---	---	---	105	180	51
TOTAL	8312	---	9470	3809	---	3067	3487	---	2903

11075600 SANTA ANA RIVER AT IMPERIAL HIGHWAY, NEAR ANAHEIM, CA--Continued  
 SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

APRIL				MAY				JUNE	
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	102	180	50	67	130	24	76	170	35
2	98	180	48	63	123	21	72	170	33
3	95	180	46	63	120	20	70	160	30
4	89	180	43	67	120	22	67	160	29
5	88	180	43	66	110	20	67	160	29
6	83	180	40	65	110	19	63	150	26
7	83	180	40	63	100	17	66	150	27
8	83	180	40	110	450	134	69	150	28
9	83	180	40	300	1150	931	69	140	26
10	83	180	40	310	500	418	67	140	25
11	81	180	39	300	300	243	65	140	25
12	84	180	41	213	280	161	65	130	23
13	82	180	40	117	260	82	61	130	21
14	81	180	39	106	240	69	59	125	20
15	79	190	41	103	240	67	58	120	19
16	76	200	41	98	234	62	56	120	18
17	75	240	49	91	230	57	56	120	18
18	75	241	49	84	230	52	50	120	16
19	70	230	43	83	230	52	49	120	16
20	69	210	39	78	220	46	49	120	16
21	69	200	37	75	220	45	52	130	18
22	72	190	37	73	220	43	49	140	19
23	75	190	38	72	210	41	52	150	21
24	70	180	34	91	210	52	52	160	22
25	70	180	34	92	210	52	54	170	25
26	70	170	32	83	200	45	53	180	26
27	70	160	30	81	200	44	49	180	24
28	68	150	28	81	190	42	49	180	24
29	66	140	25	81	190	42	49	180	24
30	63	130	22	77	180	37	49	180	24
31	---	---	---	73	177	35	---	---	---
TOTAL	2352	---	1168	3326	---	2995	1762	---	707
JULY				AUGUST				SEPTEMBER	
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	48	170	22	40	39	4.2	67	350	63
2	44	170	20	38	35	3.6	63	300	51
3	41	160	18	39	35	3.7	59	250	40
4	40	160	17	36	35	3.4	54	200	29
5	38	150	15	32	35	3.0	50	150	20
6	37	150	15	32	35	3.0	49	140	19
7	37	140	14	31	35	2.9	49	140	19
8	37	140	14	33	35	3.1	47	130	16
9	37	130	13	32	30	2.6	48	120	16
10	37	130	13	31	30	2.5	44	110	13
11	38	120	12	34	30	2.8	45	110	13
12	39	120	13	34	30	2.8	47	110	14
13	39	110	12	33	30	2.7	45	104	13
14	42	110	12	31	30	2.5	44	100	12
15	43	102	12	29	30	2.3	45	100	12
16	41	100	11	38	166	26	47	100	13
17	39	100	11	150	624	288	42	100	11
18	36	98	9.5	133	220	79	42	100	11
19	37	100	10	139	120	45	43	100	12
20	41	100	11	141	110	42	43	100	12
21	40	100	11	141	100	38	41	100	11
22	41	108	12	178	389	228	41	100	11
23	43	100	12	160	550	238	43	100	12
24	47	100	13	72	500	97	44	100	12
25	45	90	11	71	450	86	44	100	12
26	42	80	9.1	68	400	73	44	100	12
27	40	70	7.6	63	390	66	45	100	12
28	40	60	6.5	62	380	64	43	100	12
29	41	50	5.5	60	380	62	45	100	12
30	41	40	4.4	65	370	65	44	100	12
31	41	40	4.4	67	369	67	---	---	---
TOTAL	1252	---	371.0	2113	---	1609.1	1407	---	527
YEAR	36186.0		27981.1						

## SANTA ANA RIVER BASIN

11075600 SANTA ANA RIVER AT IMPERIAL HIGHWAY, NEAR ANAHEIM, CA--Continued

## SUMMARY OF WATER AND SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

MONTH	WATER DISCHARGE CFS-DAYS	SUSPENDED SEDIMENT DISCHARGE TONS	BEDLOAD DISCHARGE TONS	TOTAL SEDIMENT DISCHARGE TONS
OCTOBER 1976	3254.00	2999.00	1230	4230
NOVEMBER ...	2314.00	1133.00	466	1600
DECEMBER ...	2798.00	1032.00	732	1760
JANUARY 1977	8312.00	9470.00	9130	18600
FEBRUARY ...	3809.00	3067.00	2160	5230
MARCH .....	3487.00	2903.00	1370	4280
APRIL .....	2352.00	1168.00	451	1620
MAY .....	3326.00	2995.00	1740	4740
JUNE .....	1762.00	707.00	169	876
JULY .....	1252.00	371.00	9	380
AUGUST .....	2113.00	1609.10	588	2200
SEPTEMBER ..	1407.00	527.00	52	579
TOTAL .....	36186.00	27981.10	18097	46095

## PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	TEMPER- ATURE (DEG C)	DIS- CHARGE (CFS)	INSTAN- TANEOUS DIS- CHARGE (CFS)	SUS- PEN- DED SEDIM- ENT (MG/L)	SUS- PEN- DED SEDIM- ENT DIS- CHARGE (T/DAY)	SUS. SED. FALL DIAM. % FINER THAN .062 MM	SUS. SED. SIEVE DIAM. % FINER THAN .062 MM
NOV								
01...	1115	--	68	--	182	33	--	89
13...	0730	14.0	--	123	295	98	--	98
18...	1115	17.0	--	73	148	29	--	99
JAN								
02...	1015	12.0	--	117	216	68	--	91
03...	1500	13.0	--	292	886	699	--	86
06...	1030	10.0	--	325	898	788	82	--
08...	1655	10.0	--	269	352	256	--	59
28...	0820	12.0	--	282	145	110	--	57
FEB								
06...	1145	13.0	--	129	252	88	--	87
28...	1040	14.5	--	128	361	125	--	82
MAR								
17...	1010	10.5	--	160	568	245	--	64
25...	1350	11.0	--	264	1310	934	--	87
MAY								
09...	1420	--	300	--	1030	834	89	--
11...	1330	17.5	--	257	275	191	--	72
16...	1130	18.5	--	105	234	66	--	86
JUN								
14...	1030	20.5	--	63	125	21	--	98
30...	1050	23.5	--	51	180	25	--	96
JUL								
18...	1830	25.0	--	41	98	11	--	92

11075600 SANTA ANA RIVER AT IMPERIAL HIGHWAY, NEAR ANAHEIM, CA--Continued

## PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	SUS. SED. FALL DIAM. % FINER THAN .125 MM	SUS. SED. SIEVE DIAM. % FINER THAN .125 MM	SUS. SED. FALL DIAM. % FINER THAN .250 MM	SUS. SED. SIEVE DIAM. % FINER THAN .250 MM	SUS. SED. FALL DIAM. % FINER THAN .500 MM	SUS. SED. SIEVE DIAM. % FINER THAN .500 MM	SUS. SED. SIEVE DIAM. % FINER THAN 1.00 MM	SUS. SED. SIEVE DIAM. % FINER THAN 2.00 MM
NOV								
01...	--	96	--	100	--	--	--	--
13...	--	99	--	99	--	100	--	--
18...	--	100	--	--	--	--	--	--
JAN								
02...	--	92	--	94	--	98	100	--
03...	--	94	--	99	--	100	--	--
06...	86	--	95	--	100	--	--	--
08...	--	63	--	73	--	85	99	100
28...	--	67	--	81	--	97	100	--
FEB								
06...	--	93	--	98	--	100	--	--
28...	--	88	--	96	--	100	--	--
MAR								
17...	--	72	--	84	--	90	95	100
25...	--	94	--	98	--	100	--	--
MAY								
09...	91	--	93	--	100	--	--	--
11...	--	75	--	81	--	92	98	100
16...	--	96	--	99	--	100	--	--
JUN								
14...	--	100	--	--	--	--	--	--
30...	--	98	--	99	--	100	--	--
JUL								
18...	--	94	--	97	--	98	100	--

## PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

			NUMBER OF SAM- PLING POINTS	INSTAN- TANEOUS DIS- CHARGE (CFS)	BED MAT. SIEVE DIAM. % FINER THAN .062 MM	BED MAT. SIEVE DIAM. % FINER THAN .125 MM	BED MAT. SIEVE DIAM. % FINER THAN .250 MM	
DATE	TIME	TEMPER- ATURE (DEG C)						
SEP								
13...	1520	24.0	1	49	2	4	9	
13...	1525	24.0	1	49	2	3	7	
13...	1530	24.0	1	49	--	--	3	
13...	1535	24.0	1	49	42	66	80	
13...	1540	24.0	1	49	--	--	2	
		BED MAT. SIEVE DIAM. % FINER THAN .500 MM	BED MAT. SIEVE DIAM. % FINER THAN 1.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 2.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 4.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 8.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 16.0 MM	BED MAT. SIEVE DIAM. % FINER THAN 32.0 MM
DATE								
SEP								
13...	22	47	70	84	91	97	100	
13...	21	50	77	91	99	100	--	
13...	18	35	60	81	93	100	--	
13...	84	89	95	98	100	--	--	
13...	16	30	50	76	93	100	--	

## SANTA ANA RIVER BASIN

11075600 SANTA ANA RIVER AT IMPERIAL HIGHWAY, NEAR ANAHEIM, CA--Continued

PARTICLE-SIZE DISTRIBUTION OF BED SEDIMENT IN TRANSIT WITHIN 0.25 FT OF BED SURFACE,  
WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	TEMPER- ATURE (DEG C)	NUMBER OF SAM- PLING POINTS	INSTAN- TANEOUS DIS- CHARGE (CFS)	STREAM WIDTH (FT)	SEDI- MENT BEDLOAD DIS- CHARGE (T/DAY)	SED. BEDLOAD SIEVE DIAM. % FINER THAN .250 MM
SEP 13...	1620	24.0	14	49	34	2.8	2

DATE	SED. BEDLOAD SIEVE DIAM. % FINER THAN .500 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 1.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 2.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 4.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 8.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 16.0 MM
SEP 13...	18	37	62	84	93	100



## 11075620 SANTA ANA RIVER SPREADING DIVERSION BELOW IMPERIAL HIGHWAY NEAR ANAHEIM, CA

LOCATION.--Lat 33°51'23" (revised), long 117°48'00", in Canon De Santa Ana, Orange County, on diversion channel, 100 ft (30 m) downstream from diversion point, 0.1 mi (0.2 km) south of La Palma Avenue, 0.6 mi (1.0 km) west of Imperial Highway, and 7.8 mi (12.6 km) east of Anaheim.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1974 to current year.

GAGE.--Water-stage recorder and Parshall flume control. Altitude of gage is 262 ft (80 m), from topographic map.

REMARKS.--Records good. Water is diverted from Santa Ana River at diversion point 100 ft (30 m) upstream, for recharging to spreading basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 269 ft<sup>3</sup>/s (7.62 m<sup>3</sup>/s) Feb. 3, 1977; no flow for some periods in each year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	126	8.7	0	124	244	57	93			0	.77	
2	148	2.7	0	75	251	34	93			0	.77	
3	144	.04	0	139	269	23	91			0	.60	
4	143	0	0	217	239	47	87			0	.68	
5	142	0	0	235	124	59	88			0	.76	
6	138	0	0	242	97	58	83			0	.76	
7	112	0	0	227	99	58	82			0	.73	
8	75	0	0	232	101	59	79			0	.61	
9	74	0	0	231	100	58	81			0	.51	
10	73	0	0	241	97	57	78			0	.41	
11	72	0	0	260	95	57	76			0	.35	
12	73	0	0	263	78	58	46			0	.17	
13	70	0	0	95	93	57	0			0	0	
14	74	0	0	146	92	56	0			0	0	
15	76	0	0	242	88	55	0			0	0	
16	77	0	0	241	88	60	0			0	0	
17	69	0	0	235	88	127	0			0	0	
18	74	0	0	236	86	83	0			0	0	
19	76	0	0	226	82	82	0			0	0	
20	77	0	0	188	82	86	0			0	0	
21	78	0	0	247	78	84	0			0	0	
22	70	0	0	244	64	82	0			0	0	
23	100	0	0	242	62	90	0			0	0	
24	98	0	0	240	104	93	0			0	0	
25	87	0	0	255	210	216	0			0	0	
26	81	0	0	248	98	259	0			0	0	
27	68	0	0	249	89	153	0			.30	0	
28	66	0	0	249	64	109	0			.80	0	
29	70	0	0	246	---	96	0			.80	0	
30	23	0	45	240	---	91	0			.80	0	
31	2.9	---	135	239	---	94	---		---	.80	0	---
TOTAL	2656.9	11.44	180	6794	3262	2598	977	0	0	3.50	7.12	0
MEAN	85.7	.38	5.81	219	117	83.8	32.6	0	0	.11	.23	0
MAX	148	8.7	135	263	269	259	93	0	0	.80	.77	0
MIN	2.9	0	0	75	62	23	0	0	0	0	0	0
AC-FT	5270	23	357	13480	6470	5150	1940	0	0	6.9	14	0
CAL YR 1976	TOTAL	30296.37	MEAN	82.8	MAX	248	MIN	0	AC-FT	60090		
WTR YR 1977	TOTAL	16489.96	MEAN	45.2	MAX	269	MIN	0	AC-FT	32710		

## 11075620 SANTA ANA RIVER SPREADING DIVERSION BELOW IMPERIAL HIGHWAY NEAR ANAHEIM, CA--Continued

## WATER-QUALITY RECORDS

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

CHEMICAL ANALYSES: November 1974 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: July 1974 to current year.

INSTRUMENTATION.--Specific conductance recorder since July 1974.

REMARKS.--Missing specific conductance data for June through September and other periods due to fouling of probe or no flow.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 1,380 micromhos May 10, 1975; minimum, 238 micromhos Dec. 4, 1974.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum recorded, 1,370 micromhos Jan. 13, minimum recorded, 374 micromhos Jan. 1.

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	TEMPER- ATURE (DEG C)	DTS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	DIS- SOLVED SOLIDS (TONS PER AC-FT)	DIS- SOLVED SOLIDS (TONS PER DAY)
OCT							
15...	1140	79	1110	20.7	702	.95	150
NOV							
01...	1200	1.8	1300	18.0	848	1.15	4.12
JAN							
03...	1330	184	548	12.6	347	.47	172
14...	1145	136	862	10.7	517	.70	190
31...	1115	235	775	10.6	453	.62	287
FEB							
14...	1145	100	1127	15.8	718	.98	194
28...	1115	50	1170	14.6	705	.96	95.2
MAR							
21...	1210	84	1176	17.8	718	.98	163
APR							
01...	1135	97	1171	15.8	707	.96	185
AUG							
01...	1200	.80	1140	23.3	729	.99	1.57

## SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

OCTOBER				NOVEMBER			DECEMBER			JANUARY		
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	1100	788	907	1350	1280	1320	---	---	---	1130	374	780
2	912	782	852	1300	1200	1280	---	---	---	1180	748	1080
3	837	783	816	---	---	---	---	---	---	1090	386	678
4	793	757	782	---	---	---	---	---	---	810	714	757
5	779	751	770	---	---	---	---	---	---	1100	664	918
6	777	749	766	---	---	---	---	---	---	1090	514	761
7	982	740	832	---	---	---	---	---	---	758	562	677
8	1070	992	1030	---	---	---	---	---	---	620	524	561
9	1090	1070	1080	---	---	---	---	---	---	622	518	555
10	1090	1060	1070	---	---	---	---	---	---	834	620	697
11	1090	1050	1070	---	---	---	---	---	---	1020	804	897
12	1090	1070	1080	---	---	---	---	---	---	1250	1030	1130
13	1140	1090	1110	---	---	---	---	---	---	1370	1240	1270
14	1120	1100	1110	---	---	---	---	---	---	1250	840	917
15	1130	1110	1120	---	---	---	---	---	---	900	844	869
16	1200	1100	1140	---	---	---	---	---	---	864	826	850
17	1230	1120	1170	---	---	---	---	---	---	844	808	832
18	1210	1110	1150	---	---	---	---	---	---	842	818	831
19	1150	1110	1130	---	---	---	---	---	---	942	810	846
20	1180	1130	1150	---	---	---	---	---	---	1150	820	950
21	1170	1160	1160	---	---	---	---	---	---	894	740	814
22	1170	1140	1160	---	---	---	---	---	---	844	798	828
23	1180	928	1070	---	---	---	---	---	---	834	788	817
24	1140	929	1060	---	---	---	---	---	---	836	762	814
25	1180	1140	1150	---	---	---	---	---	---	778	734	766
26	1200	1180	1190	---	---	---	---	---	---	772	738	757
27	1210	1170	1190	---	---	---	---	---	---	774	738	762
28	1270	1180	1220	---	---	---	---	---	---	776	744	762
29	1270	1220	1240	---	---	---	---	---	---	782	744	767
30	1300	1250	1270	---	---	---	1210	656	1030	776	728	764
31	1290	1240	1260	---	---	---	1290	638	901	775	732	767
MONTH	1300	740	1070	---	---	---	---	---	---	1370	374	822



## SANTA ANA RIVER BASIN

11075720 CARBON CREEK BELOW CARBON CANYON DAM, CA

LOCATION.--Lat 33°54'40", long 117°50'29", in SW¼NE¼ sec.17, T.3 S., R.9 W., Orange County, on right wall of outlet channel 250 ft (76 m) downstream from toe of Carbon Canyon Dam, and 2.4 mi (3.9 km) northwest of Yorba Linda.

DRAINAGE AREA.--19.5 mi<sup>2</sup> (50.5 km<sup>2</sup>).

PERIOD OF RECORD.--October 1961 to current year.

GAGE.--Water-stage recorder. Datum of gage is 396.29 ft (120.789 m) above mean sea level (Corps of Engineers bench mark). Prior to Dec. 3, 1971, at datum 2.00 ft (0.610 m) higher.

REMARKS.--Records fair. Flow regulated by Carbon Canyon flood-control reservoir, capacity, 6,610 acre-ft (8.15 hm<sup>3</sup>). No diversion above station. See schematic diagram of Santa Ana River basin.

AVERAGE DISCHARGE.--16 years, 0.44 ft<sup>3</sup>/s (0.012 m<sup>3</sup>/s), 319 acre-ft/yr (393,000 m<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 446 ft<sup>3</sup>/s (12.6 m<sup>3</sup>/s) Feb. 25, 1969, gage height, 4.64 ft (1.414 m), present datum, from rating curve extended above 110 ft<sup>3</sup>/s (3.12 m<sup>3</sup>/s) on basis of computation of flow in concrete-lined channel at gage height 6.18 ft (1.884 m); no flow most of each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 24 ft<sup>3</sup>/s (0.68 m<sup>3</sup>/s) Mar. 30, gage height, 2.54 ft (0.774m); no flow most of year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1				0	0	0		0	0		0	
2				0	0	0		0	0		0	
3				0	0	0		0	0		0	
4				0	0	0		0	0		0	
5				0	0	0		0	0		0	
6				0	0	0		0	0		0	
7				0	0	0		0	0		0	
8				0	0	0		.02	0		0	
9				0	0	0		.02	0		0	
10				3.6	0	0		0	0		0	
11				5.8	0	0		0	0		0	
12				.09	0	0		1.3	0		0	
13				0	0	0		0	0		0	
14				0	0	0		0	0		0	
15				0	0	0		0	0		0	
16				0	0	0		0	0		0	
17				0	0	0		0	0		.01	
18				0	0	0		0	0		1.8	
19				0	0	0		0	0		0	
20				0	0	0		0	0		0	
21				0	0	0		0	2.0		0	
22				0	0	0		0	0		0	
23				0	0	0		0	0		0	
24				0	0	0		0	0		0	
25				.10	.48	0		0	0		0	
26				0	0	0		0	0		0	
27				0	0	0		0	0		0	
28				0	0	0		0	0		0	
29				0	---	0		0	2.9		0	
30				0	---	1.0		0	0		0	
31		---		0	---	0	---	0	---		0	---
TOTAL	0	0	0	9.59	.48	1.0	0	1.34	4.9	0	1.81	0
MEAN	0	0	0	.31	.017	.032	0	.043	.16	0	.058	0
MAX	0	0	0	5.8	.48	1.0	0	1.3	2.9	0	1.8	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	0	0	19	1.0	2.0	0	2.7	9.7	0	3.6	0
CAL YR 1976	TOTAL 18.68	MEAN .051	MAX 7.7	MIN 0	AC-FT 37							
WTR YR 1977	TOTAL 19.12	MEAN .052	MAX 5.8	MIN 0	AC-FT 38							

11075755 SANTA ANA RIVER AT BALL ROAD, AT ANAHEIM, CA

LOCATION.--Lat 33°49'00", long 117°52'17", sec.24, T.4 S., R.10 W., Orange County, 350 ft (107 m) south of Ball Road, 0.60 mi (0.97 km) west of Batavia Street, and 0.98 mi (1.58 km) east of State College Boulevard in Anaheim.

DRAINAGE AREA.--1,587 mi<sup>2</sup> (4,110 km<sup>2</sup>).

PERIOD OF RECORD.--October 1976 to September 1977.

GAGE.--Water-stage recorder with concrete cut-off wall. Datum of gage is 170 ft (51.82 m) from topographic map.

REMARKS.--Records poor. River flow is regulated by Prado Dam, infiltration ponds and diversions.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 145 ft<sup>3</sup>/s (4.11 m<sup>3</sup>/s) Jan. 3, 1977, gage height, 1.74 ft (0.530 m) based on rating curve extended above 39 ft<sup>3</sup>/s (1.10 m<sup>3</sup>/s); no flow for many months.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 145 ft<sup>3</sup>/s (4.11 m<sup>3</sup>/s) Jan. 3, gage height, 1.74 ft (0.530 m) based on rating curve extended above 39 ft<sup>3</sup>/s (1.10 m<sup>3</sup>/s); no flow for many months.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1				0		0		0				
2				0		0		0				
3				24		0		0				
4				0		0		0				
5				.43		0		0				
6				29		0		0				
7				1.6		0		0				
8				0		0		2.5				
9				0		0		0				
10				0		0		0				
11				6.0		0		0				
12				15		0		0				
13				1.4		0		0				
14				0		0		0				
15				0		0		0				
16				0		.56		0				
17				0		0		0				
18				0		0		0				
19				0		0		0				
20				0		0		0				
21				0		0		0				
22				0		0		0				
23				0		0		0				
24				0		0		0				
25				0		0		0				
26				0		5.0		0				
27				0		0		0				
28				0		0		0				
29				0	---	0		0				
30				0	---	0		0				
31		---		0	---	0	---	0	---			---
TOTAL	0	0	0	77.43	0	5.56	0	2.5	0	0	0	0
MEAN	0	0	0	2.50	0	.18	0	.081	0	0	0	0
MAX	0	0	0	29	0	5.0	0	2.5	0	0	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	0	0	154	0	11	0	5.0	0	0	0	0
WTR YR 1977	TOTAL	85.49	MEAN	.23	MAX	29	MIN	0	AC-FT	170		

## SANTA ANA RIVER BASIN

11075755 SANTA ANA RIVER AT BALL ROAD, NEAR ANAHEIM, CA

## WATER-QUALITY RECORDS

## PERIOD OF DAILY RECORD.--

SEDIMENT RECORDS: October 1976 to September 1977.

REMARKS.--Sediment record is based on two samples collected Jan. 3 and 6, and data from discontinued station Santa Ana River near Katella Avenue, at Orange (11075760).

## EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 279 mg/l Jan. 6, 1977; minimum daily mean, no flow on many days.

SEDIMENT DISCHARGE: Maximum daily, 64 tons (58 tonnes) Jan. 3, 1977; minimum daily, 0 tons on many days.

## EXTREMES FOR CURRENT YEAR.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 279 mg/l Jan. 6; minimum daily mean, no flow on many days.

SEDIMENT DISCHARGE: Maximum daily, 64 tons (58 tonnes) Jan. 3; minimum daily, 0 tons on many days.

## SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	JANUARY			FEBRUARY			MARCH		
	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	0	0	0				0	0	0
2	0	0	0				0	0	0
3	24	264	64				0	0	0
4	0	0	0				0	0	0
5	.43	9	.15				0	0	0
6	29	279	24				0	0	0
7	1.6	22	.37				0	0	0
8	0	0	0				0	0	0
9	0	0	0				0	0	0
10	0	0	0				0	0	0
11	6.0	42	1.2				0	0	0
12	15	42	1.7				0	0	0
13	1.4	9	.11				0	0	0
14	0	0	0				0	0	0
15	0	0	0				0	0	0
16	0	0	0				.56	9	.10
17	0	0	0				0	0	0
18	0	0	0				0	0	0
19	0	0	0				0	0	0
20	0	0	0				0	0	0
21	0	0	0				0	0	0
22	0	0	0				0	0	0
23	0	0	0				0	0	0
24	0	0	0				0	0	0
25	0	0	0				0	0	0
26	0	0	0				5.0	60	.81
27	0	0	0				0	0	0
28	0	0	0				0	0	0
29	0	0	0				0	0	0
30	0	0	0				0	0	0
31	0	0	0				0	0	0
TOTAL	77.43	---	91.53	0	0	0	5.56	---	.91

11075755 SANTA ANA RIVER AT BALL ROAD, NEAR ANAHEIM, CA--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	APRIL			MAY			JUNE		
	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1				0	0	0			
2				0	0	0			
3				0	0	0			
4				0	0	0			
5				0	0	0			
6				0	0	0			
7				0	0	0			
8				2.5	24	1.2			
9				0	0	0			
10				0	0	0			
11				0	0	0			
12				0	0	0			
13				0	0	0			
14				0	0	0			
15				0	0	0			
16				0	0	0			
17				0	0	0			
18				0	0	0			
19				0	0	0			
20				0	0	0			
21				0	0	0			
22				0	0	0			
23				0	0	0			
24				0	0	0			
25				0	0	0			
26				0	0	0			
27				0	0	0			
28				0	0	0			
29				0	0	0			
30				0	0	0			
31				0	0	0			
TOTAL	0	0	0	2.50	---	1.20	0	0	0
YEAR	85.49		93.64						

SUMMARY OF WATER AND SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

MONTH	WATER DISCHARGE CFS-DAYS	SUSPENDED SEDIMENT DISCHARGE TONS	BEDLOAD DISCHARGE TONS	TOTAL SEDIMENT DISCHARGE TONS
OCTOBER 1976	0.0	0.0	0	0
NOVEMBER ...	0.0	0.0	0	0
DECEMBER ...	0.0	0.0	0	0
JANUARY 1977	77.43	91.53	15	107
FEBRUARY ...	0.0	0.0	0	0
MARCH .....	5.56	0.91	0	1
APRIL .....	0.0	0.0	0	0
MAY .....	2.50	1.20	0	1
JUNE .....	0.0	0.0	0	0
JULY .....	0.0	0.0	0	0
AUGUST .....	0.0	0.0	0	0
SEPTEMBER ..	0.0	0.0	0	0
TOTAL .....	85.49	93.64	15	109

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

[illegible]



## 11075800 SANTIAGO CREEK AT MODJESKA, CA

LOCATION.--Lat 33°42'32", long 117°38'05", in SE¼SE¼NW¼ sec.29, T.5 S., R.7 W., Orange County, on right bank at Santiago Canyon road bridge, 0.3 mi (0.5 km) west of Modjeska, and 0.4 mi (0.6 km) downstream from Harding Creek.

DRAINAGE AREA.--12.5 mi<sup>2</sup> (32.4 km<sup>2</sup>).

PERIOD OF RECORD.--October 1961 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,254.35 ft (382.326 m) above mean sea level. Prior to Sept. 10, 1969, at datum 4.42 ft (1.347 m) higher.

REMARKS.--Records poor from Oct. 1 to Jan. 21 and fair rest of year. Slight regulation by Modjeska Reservoir on Harding Creek. No diversion above station. See schematic diagram of Santa Ana River basin.

AVERAGE DISCHARGE.--16 years, 5.93 ft<sup>3</sup>/s (0.168 m<sup>3</sup>/s), 4,300 acre-ft/yr (5.30 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,520 ft<sup>3</sup>/s (185 m<sup>3</sup>/s) Feb. 25, 1969, gage height, 10.50 ft (3.200 m), present datum, from rating curve extended above 840 ft<sup>3</sup>/s (23.8 m<sup>3</sup>/s) on basis of slope-area measurement of maximum flow; no flow at times in each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 16 ft<sup>3</sup>/s (0.453 m<sup>3</sup>/s) Jan. 7, gage height unknown, no peak above base of 100 ft<sup>3</sup>/s (2.83 m<sup>3</sup>/s); no flow many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	.80	.57	.64	.72	.44	.90	.09	.06	.02
2	0	0	0	.50	.57	.57	.90	.44	.90	.09	.06	.02
3	.01	0	0	.50	.57	.50	1.0	.44	.80	.09	.06	.02
4	.01	0	0	1.5	.57	.50	.90	.44	.90	.09	.06	.02
5	0	0	0	1.1	.57	.50	.81	.44	1.0	.09	.06	.02
6	0	0	0	2.0	.57	.50	.72	.44	.90	.09	.06	.02
7	0	0	0	9.0	.57	.44	.72	.38	.90	.09	.06	.02
8	0	0	0	5.0	.57	.48	.72	1.5	.90	.08	.06	.01
9	0	0	0	4.0	.57	.72	.72	3.7	.80	.08	.06	.01
10	0	0	0	3.0	.57	.57	.72	4.0	.72	.07	.06	.01
11	0	0	0	2.4	.57	.57	.72	2.8	.72	.07	.06	.01
12	0	.02	0	2.0	.57	.57	.64	2.5	.72	.07	.06	.01
13	0	.01	0	1.8	.64	.57	.64	2.5	.64	.07	.06	.01
14	0	.01	0	1.6	.72	.57	.50	2.3	.64	.08	.06	.01
15	0	.01	0	1.5	.72	.57	.50	2.0	.57	.07	.06	0
16	0	.01	0	1.4	.72	1.2	.50	2.0	.50	.07	.06	0
17	0	0	0	1.3	.64	.72	.50	1.8	.44	.07	.23	0
18	0	0	0	1.3	.64	.64	.50	1.6	.38	.07	.08	0
19	0	0	0	1.2	.57	.64	.50	1.3	.33	.06	.07	0
20	.01	0	0	1.1	.57	.57	.50	1.3	.24	.06	.06	0
21	.01	0	0	1.1	.57	.57	.50	1.2	.18	.06	.05	0
22	.01	0	0	1.0	.57	.57	.44	1.2	.16	.06	.05	0
23	0	0	0	1.0	.50	.57	.44	1.2	.13	.06	.06	0
24	0	0	0	1.0	1.3	.57	.38	1.2	.12	.06	.05	0
25	0	0	0	1.0	1.6	.90	.33	1.2	.12	.06	.05	0
26	0	0	0	1.1	.90	.90	.33	1.2	.12	.06	.04	0
27	0	0	0	1.2	.81	.90	.38	.90	.12	.06	.04	0
28	0	0	0	.81	.72	.81	.38	.90	.10	.06	.03	0
29	0	0	0	.72	---	.72	.44	.90	.10	.06	.03	0
30	0	0	.02	.64	---	.72	.44	.90	.10	.06	.04	0
31	0	---	.03	.57	---	.72	---	.90	---	.06	.03	---
TOTAL	.05	.06	.05	53.14	19.03	19.84	17.49	44.02	15.15	2.21	1.87	.21
MEAN	.002	.002	.002	1.71	.68	.64	.58	1.42	.51	.071	.060	.007
MAX	.01	.02	.03	9.0	1.6	1.2	1.0	4.0	1.0	.09	.23	.02
MIN	0	0	0	.50	.50	.44	.33	.38	.10	.06	.03	0
AC-FT	.10	.1	.10	105	38	39	35	87	30	4.4	3.7	.4
CAL YR 1976	TOTAL 576.38			MEAN 1.57	MAX 97	MIN 0	AC-FT 1140					
WTR YR 1977	TOTAL 173.12			MEAN .47	MAX 9.0	MIN 0	AC-FT 343					

## SANTA ANA RIVER BASIN

11077500 SANTIAGO CREEK AT SANTA ANA, CA

LOCATION (REVISED).--Lat 33°46'13", long 117°53'01", in NW¼SW¼NW¼ sec.1, T.5 S., R.10 W., Orange County, on left bank 127 ft (39 m) upstream from Bristol Street bridge at Santa Ana, and 1,700 ft (518 m) upstream from mouth at Santa Ana River.

## WATER-DISCHARGE RECORDS

DRAINAGE AREA.--98.6 mi<sup>2</sup> (255 km<sup>2</sup>).

PERIOD OF RECORD.--October 1928 to current year. Monthly discharge only October to December 1928, published in WSP 1315-B.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 105.00 ft (32.004 m) above mean sea level (Orange County Flood Control District bench mark). Prior to Sept. 8, 1969, at site 0.1 mi (0.2 km) upstream at differing datum. Prior to July 21, 1976, at site 127 ft (38.7 m) downstream at datum 2.66 ft (0.811 ft) lower.

REMARKS.--Records fair. Flow regulated by Santiago Reservoir, capacity, 25,000 acre-ft (30.8 hm<sup>3</sup>), since January 1963 by Villa Park flood-control reservoir, capacity, 15,500 acre-ft (19.1 hm<sup>3</sup>), and affected by intervening gravel pits. Diversions above station by Irvine Co. and Serrano and Carpenter Irrigation Districts. See schematic diagram of Santa Ana River basin.

AVERAGE DISCHARGE.--49 years, 4.84 ft<sup>3</sup>/s (0.137 m<sup>3</sup>/s), 3,510 acre-ft/yr (4.32 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,600 ft<sup>3</sup>/s (187 m<sup>3</sup>/s) Feb. 25, 1969, gage height, 9.10 ft (2.774 m), site and datum then in use; maximum gage height, 9.85 ft (3.002 m) Jan. 16, 1952; no flow for several months in each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 424 ft<sup>3</sup>/s (12.0 m<sup>3</sup>/s) Jan. 3, gage height, 3.45 ft (1.052 m); no flow for several months.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		0	0	0	0	0		0	0		0	0
2		0	0	.29	0	0		0	0		0	0
3		0	0	29	.10	0		0	0		0	.04
4		0	0	0	0	0		0	0		0	0
5		0	0	14	.11	0		0	0		0	0
6		0	0	35	.43	0		0	0		0	0
7		0	0	6.0	0	0		0	0		0	0
8		0	0	.03	0	0		24	0		0	0
9		0	0	0	0	0		14	0		0	0
10		0	0	0	0	0		.02	0		0	0
11		0	0	0	0	0		0	0		0	0
12		12	0	0	0	0		0	0		0	0
13		0	0	0	0	0		0	0		0	0
14		0	0	0	0	0		0	0		0	0
15		0	0	0	0	0		0	0		0	0
16		0	0	0	0	.43		0	0		.18	0
17		0	0	0	0	.13		0	0		49	0
18		0	0	0	0	0		0	0		.49	0
19		0	0	0	0	0		0	0		0	0
20		0	0	0	0	0		0	0		0	0
21		0	0	0	0	0		0	0		0	0
22		0	0	0	0	0		0	0		0	0
23		0	0	0	.19	0		0	0		0	0
24		0	0	0	6.9	0		.71	0		0	0
25		0	0	0	.13	9.7		0	0		0	0
26		0	0	0	.24	0		0	.14		0	0
27		0	.01	0	0	0		0	0		0	0
28		0	0	0	0	0		0	0		0	0
29		0	0	.18	---	0		0	0		0	0
30		0	5.8	.22	---	0		0	0		0	0
31		---	.43	.37	---	0	---	0	---		0	---
TOTAL	0	12	6.24	85.09	8.10	10.26	0	38.73	.14	0	49.67	.04
MEAN	0	.40	.20	2.74	.29	.33	0	1.25	.005	0	1.60	.001
MAX	0	12	5.8	35	6.9	9.7	0	24	.14	0	49	.04
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	24	12	169	16	20	0	77	.3	0	99	.08
CAL YR 1976	TOTAL	225.02	MEAN	.61	MAX	57	MIN	0	AC-FT	446		
WTR YR 1977	TOTAL	210.27	MEAN	.58	MAX	49	MIN	0	AC-FT	417		

11077500 SANTIAGO CREEK AT SANTA ANA, CA--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--

SEDIMENT RECORDS: Water year 1974 to current year (partial-record station).

## PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	TEMPER- ATURE (DEG C)	INSTAN- TANEOUS DIS- CHARGE (CFS)	SUS- PENDE SEDIM- ENT (MG/L)	SUS- PENDE SEDIM- ENT DIS- CHARGE (T/DAY)	SUS. SED. SIEVE DIAM. % FINER THAN .062 MM	SUS. SED. SIEVE DIAM. % FINER THAN .125 MM	SUS. SED. SIEVE DIAM. % FINER THAN .250 MM	SUS. SED. SIEVE DIAM. % FINER THAN .500 MM
DEC 30...	1435	14.5	29	68	5.3	97	98	99	100
JAN 06...	1215	12.0	46	75	9.3	--	--	--	--
07...	1015	11.5	3.1	15	.13	--	--	--	--
FEB 24...	1340	12.5	5.6	144	2.2	100	--	--	--
MAR 25...	0845	12.0	.29	34	.03	--	--	--	--
MAY 09...	0925	15.0	6.1	19	.31	--	--	--	--
AUG 17...	1850	23.5	18	15	.73	--	--	--	--

## PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	NUMBER OF SAM- PLING POINTS	INSTAN- TANEOUS DIS- CHARGE (CFS)	BED MAT. SIEVE DIAM. % FINER THAN .062 MM	BED MAT. SIEVE DIAM. % FINER THAN .125 MM	BED MAT. SIEVE DIAM. % FINER THAN .250 MM	BED MAT. SIEVE DIAM. % FINER THAN .500 MM
SEP 13...	1345	3	.00	0	1	2	8

DATE	BED MAT. SIEVE DIAM. % FINER THAN 1.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 2.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 4.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 8.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 16.0 MM	BED MAT. SIEVE DIAM. % FINER THAN 32.0 MM	BED MAT. SIEVE DIAM. % FINER THAN 64.0 MM
SEP 13...	16	23	33	49	72	93	100

## SANTA ANA RIVER BASIN

11078000 SANTA ANA RIVER AT SANTA ANA, CA

LOCATION.--Lat 33°44'56", long 117°54'30", in NW¼SW¼SE¼ sec.10, T.5 S., R.10 W., Orange County, on pier of Fifth Street Bridge in Santa Ana, 1.8 mi (2.9 km) downstream from Santiago Creek.

DRAINAGE AREA.--1,700 mi<sup>2</sup> (4,403 km<sup>2</sup>), excludes 768 mi<sup>2</sup> (1,989 km<sup>2</sup>) above Lake Elsinore.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1923 to current year.

REVISED RECORDS.--WDR CA-74-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 71.20 ft (21.702 m) above mean sea level (Orange County bench mark). Jan. 3, 1923, to Jan. 24, 1929, at same site at different datum. Jan. 25, 1929, to June 20, 1948, at site 450 ft (137 m) upstream at different datum. June 21, 1948, to May 2, 1960, at same site at different datum. Feb. 28, 1961, to Oct. 1, 1961, at same site at datum 2.00 ft (0.610 m) higher.

REMARKS.--Records poor. Natural flow affected by ground-water withdrawals, diversions, importation by Metropolitan Water District, municipal use, return flow from irrigation, Prado flood-control reservoir, capacity, 201,200 acre-ft (248 hm<sup>3</sup>) since 1940, three small flood-control reservoirs, combined capacity, 31,900 acre-ft (39.3 hm<sup>3</sup>), Big Bear Lake (station 11049000), and Santiago Reservoir, capacity, 25,000 acre-ft (30.8 hm<sup>3</sup>). Discharge up to 100 ft<sup>3</sup>/s (2.83 m<sup>3</sup>/s) can be diverted from Carbon Creek to Coyote Creek 1.5 mi (2.4 km) upstream from mouth of Carbon Creek. See schematic diagram of Santa Ana River basin.

AVERAGE DISCHARGE.--17 years (water years 1923-39), 23.4 ft<sup>3</sup>/s (0.663 m<sup>3</sup>/s), 16,940 acre-ft/yr (20.9 hm<sup>3</sup>/yr); 38 years (water years 1940-77) 27.1 ft<sup>3</sup>/s (0.767 m<sup>3</sup>/s) 19,630 acre-ft/yr (24.2 hm<sup>3</sup>/yr).

COOPERATION.--Four discharge measurements were furnished by Orange County Environmental Management Agency.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 46,300 ft<sup>3</sup>/s (1,310 m<sup>3</sup>/s) Mar. 3, 1938, gage height, 10.20 ft (3.109 m), site and datum then in use, on basis of slope-area measurement of maximum flow; no flow for several months in each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 605 ft<sup>3</sup>/s (17.1 m<sup>3</sup>/s) May 8, gage height, 3.36 ft (1.024 m); no flow most of year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		0	0	0	0	0		0			0	
2		0	0	0	0	0		0			0	
3		0	0	93	0	0		0			0	
4		0	0	.86	0	0		0			0	
5		0	0	22	0	0		0			0	
6		0	0	221	0	0		0			0	
7		0	0	70	0	0		0			0	
8		0	0	1.6	0	0		220			0	
9		0	0	.07	0	0		100			0	
10		0	0	0	0	0		10			0	
11		0	0	0	0	0		0			0	
12		83	0	0	0	0		0			0	
13		.11	0	0	0	0		0			0	
14		0	0	0	0	0		0			0	
15		0	0	0	0	0		0			0	
16		0	0	0	0	12		0			0	
17		0	0	0	0	17		0			271	
18		0	0	0	0	.24		0			32	
19		0	0	0	0	0		0			.80	
20		0	0	0	0	0		0			0	
21		0	0	.47	0	0		0			0	
22		0	0	0	0	0		0			0	
23		0	0	0	16	0		0			0	
24		0	0	0	50	0		13			0	
25		0	0	0	3.5	78		3.7			0	
26		0	0	0	.22	2.4		.16			0	
27		0	0	0	0	.23		0			0	
28		0	0	0	0	0		0			0	
29		0	0	0	---	0		0			0	
30		0	15	0	---	0		0			0	
31		---	9.3	0	---	0	---	0	---		0	---
TOTAL	0	83.11	24.3	409.00	69.72	109.87	0	346.86	0	0	303.80	0
MEAN	0	2.77	.78	13.2	2.49	3.54	0	11.2	0	0	9.80	0
MAX	0	83	15	221	50	78	0	220	0	0	271	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	165	48	811	138	218	0	688	0	0	603	0
CAL YR 1976	TOTAL	1556.10	MEAN 4.25	MAX 359	MIN 0	AC-FT 3090						
WTR YR 1977	TOTAL	1346.66	MEAN 3.69	MAX 271	MIN 0	AC-FT 2670						

## 11078000 SANTA ANA RIVER AT SANTA ANA, CA--Continued

## WATER-QUALITY RECORDS

## PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: October 1967 to September 1969, October 1970 to September 1971, October 1972 to current year.

SEDIMENT RECORDS: October 1967 to September 1971, October 1972 to current year.

## EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 78,000 mg/l Feb. 25, 1969; minimum daily mean, no flow for many days each year.

SEDIMENT DISCHARGE: Maximum daily, 2,670,000 tons (2,420,000 tonnes) Feb. 25, 1969; minimum daily, 0 tons on many days each year.

## EXTREMES FOR CURRENT YEAR.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,690 mg/l May 8; minimum daily mean, no flow for many days.

SEDIMENT DISCHARGE: Maximum daily, 1,140 tons (1,030 tonnes) Jan. 6; minimum daily, 0 tons on many days.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		---	---	---	---	---		---			---	
2		---	---	---	---	---		---			---	
3		---	---	13.5	---	---		---			---	
4		---	---	---	---	---		---			---	
5		---	---	---	---	---		---			---	
6		---	---	11.0	---	---		---			---	
7		---	---	---	---	---		---			---	
8		---	---	---	---	---		---			---	
9		---	---	---	---	---		---			---	
10		---	---	---	---	---		---			---	
11		---	---	---	---	---		---			---	
12		17.0	---	---	---	---		---			---	
13		---	---	---	---	---		---			---	
14		---	---	---	---	---		---			---	
15		---	---	---	---	---		---			---	
16		---	---	---	---	---		---			---	
17		---	---	---	---	---		---			24.5	
18		---	---	---	---	---		---			27.0	
19		---	---	---	---	---		---			---	
20		---	---	---	---	---		---			---	
21		---	---	---	---	---		---			---	
22		---	---	---	---	---		---			---	
23		---	---	---	---	---		---			---	
24		---	---	---	12.5	---		19.0			---	
25		---	---	---	---	12.0		---			---	
26		---	---	---	---	---		---			---	
27		---	---	---	---	---		---			---	
28		---	---	---	---	---		---			---	
29		---	---	---	---	---		---			---	
30		---	15.0	---	---	---		---			---	
31		---	18.0	---	---	---		---			---	
MONTH		---	---	---	---	---		---			---	

## SANTA ANA RIVER BASIN

11078000 SANTA ANA RIVER AT SANTA ANA, CA--Continued

## SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	OCTOBER			NOVEMBER			DECEMBER		
	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1				0	0	0	0	0	0
2				0	0	0	0	0	0
3				0	0	0	0	0	0
4				0	0	0	0	0	0
5				0	0	0	0	0	0
6				0	0	0	0	0	0
7				0	0	0	0	0	0
8				0	0	0	0	0	0
9				0	0	0	0	0	0
10				0	0	0	0	0	0
11				0	0	0	0	0	0
12				83	959	622	0	0	0
13				.11	24	.05	0	0	0
14				0	0	0	0	0	0
15				0	0	0	0	0	0
16				0	0	0	0	0	0
17				0	0	0	0	0	0
18				0	0	0	0	0	0
19				0	0	0	0	0	0
20				0	0	0	0	0	0
21				0	0	0	0	0	0
22				0	0	0	0	0	0
23				0	0	0	0	0	0
24				0	0	0	0	0	0
25				0	0	0	0	0	0
26				0	0	0	0	0	0
27				0	0	0	0	0	0
28				0	0	0	0	0	0
29				0	0	0	0	0	0
30				0	0	0	15	279	53
31				---	---	---	9.3	179	6.3
TOTAL	0	0	0	83.11	---	622.05	24.30	---	59.30
DAY	JANUARY			FEBRUARY			MARCH		
	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0
3	93	971	709	0	0	0	0	0	0
4	.86	39	.28	0	0	0	0	0	0
5	22	282	120	0	0	0	0	0	0
6	221	1460	1140	0	0	0	0	0	0
7	70	297	86	0	0	0	0	0	0
8	1.6	69	.46	0	0	0	0	0	0
9	.07	6	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	12	67	10
17	0	0	0	0	0	0	17	129	17
18	0	0	0	0	0	0	.24	9	.02
19	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0
21	.47	16	.13	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0
23	0	0	0	16	63	11	0	0	0
24	0	0	0	50	210	73	0	0	0
25	0	0	0	3.5	57	.78	78	379	261
26	0	0	0	.22	3	.02	2.4	86	.86
27	0	0	0	0	0	0	.23	30	.05
28	0	0	0	0	0	0	0	0	0
29	0	0	0	---	---	---	0	0	0
30	0	0	0	---	---	---	0	0	0
31	0	0	0	---	---	---	0	0	0
TOTAL	409.00	---	2055.87	69.72	---	84.80	109.87	---	288.93

11078000 SANTA ANA RIVER AT SANTA ANA, CA--Continued

## SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	APRIL			MAY			JUNE		
	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1				0	0	0			
2				0	0	0			
3				0	0	0			
4				0	0	0			
5				0	0	0			
6				0	0	0			
7				0	0	0			
8				220	1690	1000			
9				100	1110	300			
10				10	296	8.0			
11				0	0	0			
12				0	0	0			
13				0	0	0			
14				0	0	0			
15				0	0	0			
16				0	0	0			
17				0	0	0			
18				0	0	0			
19				0	0	0			
20				0	0	0			
21				0	0	0			
22				0	0	0			
23				0	0	0			
24				13	62	9.0			
25				3.7	57	2.3			
26				.16	2	.01			
27				0	0	0			
28				0	0	0			
29				0	0	0			
30				0	0	0			
31				0	0	0			
TOTAL	0	0	0	346.86	---	1319.31	0	0	0
DAY	JULY			AUGUST			SEPTEMBER		
	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1				0	0	0			
2				0	0	0			
3				0	0	0			
4				0	0	0			
5				0	0	0			
6				0	0	0			
7				0	0	0			
8				0	0	0			
9				0	0	0			
10				0	0	0			
11				0	0	0			
12				0	0	0			
13				0	0	0			
14				0	0	0			
15				0	0	0			
16				0	0	0			
17				271	535	580			
18				32	80	16			
19				.80	1	0			
20				0	0	0			
21				0	0	0			
22				0	0	0			
23				0	0	0			
24				0	0	0			
25				0	0	0			
26				0	0	0			
27				0	0	0			
28				0	0	0			
29				0	0	0			
30				0	0	0			
31				0	0	0			
TOTAL	0	0	0	303.80	---	596.00	0	0	0
YEAR	1346.66		5026.26						

## SANTA ANA RIVER BASIN

11078000 SANTA ANA RIVER AT SANTA ANA, CA--Continued

## SUMMARY OF WATER AND SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

MONTH	WATER DISCHARGE CFS-DAYS	SUSPENDED SEDIMENT DISCHARGE TONS	BEDLOAD DISCHARGE TONS	TOTAL SEDIMENT DISCHARGE TONS
OCTOBER 1976	0.0	0.0	0	0
NOVEMBER ...	83.11	622.05	74	696
DECEMBER ...	24.30	59.30	2	61
JANUARY 1977	409.00	2055.87	469	2520
FEBRUARY ...	69.72	84.80	37	122
MARCH .....	109.87	288.93	70	359
APRIL .....	0.0	0.0	0	0
MAY .....	346.86	1319.31	414	1730
JUNE .....	0.0	0.0	0	0
JULY .....	0.0	0.0	0	0
AUGUST .....	303.80	596.00	446	1040
SEPTEMBER ..	0.0	0.0	0	0
TOTAL .....	1346.66	5026.26	1512	6528

## PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	TEMPER- ATURE (DEG C)	INSTAN- TANEOUS DIS- CHARGE (CFS)	SUS- PEN- DED SED- IMENT DIS- CHARGE (MG/L)	SUS- PEN- DED SED- IMENT DIS- CHARGE (T/DAY)	SUS. SED. FALL DIAM. % FINER THAN .062 MM	SUS. SED. SIEVE DIAM. % FINER THAN .062 MM	SUS. SED. FALL DIAM. % FINER THAN .125 MM
NOV 12...	1015	17.0	18	240	12	--	96	--
DEC 30...	1500	15.0	103	2000	556	76	--	89
JAN 03...	1000	13.5	28	839	63	--	31	--
06...	1300	11.0	278	1440	1080	30	--	40
FEB 24...	1410	12.5	28	139	11	--	99	--
MAR 25...	1000	12.0	28	158	12	--	99	--
AUG 17...	1630	24.5	516	971	1350	--	49	--
17...	1920	23.0	265	292	209	--	62	--
DATE	TIME	SUS. SED. SIEVE DIAM. % FINER THAN .125 MM	SUS. SED. FALL DIAM. % FINER THAN .250 MM	SUS. SED. SIEVE DIAM. % FINER THAN .250 MM	SUS. SED. FALL DIAM. % FINER THAN .500 MM	SUS. SED. SIEVE DIAM. % FINER THAN .500 MM	SUS. SED. FALL DIAM. % FINER THAN 1.00 MM	SUS. SED. FALL DIAM. % FINER THAN 2.00 MM
NOV 12...	100	--	--	--	--	--	--	--
DEC 30...	--	97	--	100	--	--	--	--
JAN 03...	36	--	65	--	94	--	100	--
06...	--	67	--	84	--	99	--	100
FEB 24...	100	--	--	--	--	--	--	--
MAR 25...	99	--	100	--	--	--	--	--
AUG 17...	64	--	88	--	98	--	100	--
17...	76	--	96	--	100	--	--	--

## PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	NUMBER OF SAM- PLING POINTS	INSTAN- TANEOUS DIS- CHARGE (CFS)	BED MAT. SIEVE DIAM. % FINER THAN .125 MM	BED MAT. SIEVE DIAM. % FINER THAN .250 MM	BED MAT. SIEVE DIAM. % FINER THAN .500 MM	BED MAT. SIEVE DIAM. % FINER THAN 1.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 2.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 4.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 8.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 16.0 MM
SEP 13...	1245	5	.00	2	14	53	84	94	98	99	100



## 11078100 SANTA ANA RIVER AT ADAMS AVENUE, NEAR COSTA MESA, CA

LOCATION.--Lat 33°40'19", long 117°56'42", on line between secs.5 and 8, T.6 S., R.10 W., Orange County, 0.5 mi (0.8 km) east of Brookhurst Street, 1.3 mi (2.1 km) northwest of Fairview State Hospital and 2.5 mi (4.0 km) northwest of Costa Mesa.

DRAINAGE AREA.--1,700 mi<sup>2</sup> (4,403 km<sup>2</sup>), excludes 768 mi<sup>2</sup> (1,989 km<sup>2</sup>) above Lake Elsinore.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1974 to current year.

GAGE.--Nonrecording gage. Altitude of gage is 12 ft (3.7 m), from topographic map.

REMARKS.--Records poor. Discharge is computed from nonrecording gage readings made during periods of flow.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,100 ft<sup>3</sup>/s (144 m<sup>3</sup>/s) Dec. 4, 1974, gage height, 8.30 ft (2.530 m); no flow most of each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 560 ft<sup>3</sup>/s (15.9 m<sup>3</sup>/s) Aug. 17, gage height, unknown, peak discharge estimated on records of 11078000 Santa Ana River at Santa Ana; no flow most of year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		0	0	0	0	0		0			0	
2		0	0	0	0	0		0			0	
3		0	0	71	0	0		0			0	
4		0	0	0	0	0		0			0	
5		0	0	0	0	0		0			0	
6		0	0	147	0	0		0			0	
7		0	0	65	0	0		0			0	
8		0	0	8.6	0	0		0			0	
9		0	0	0	0	0		0			0	
10		0	0	0	0	0		0			0	
11		0	0	0	0	0		0			0	
12		50	0	0	0	0		0			0	
13		0	0	0	0	0		0			0	
14		0	0	0	0	0		0			0	
15		0	0	0	0	0		0			0	
16		0	0	0	0	0		0			0	
17		0	0	0	0	11		0			179	
18		0	0	0	0	0		0			46	
19		0	0	0	0	0		0			0	
20		0	0	0	0	0		0			0	
21		0	0	0	0	0		0			0	
22		0	0	0	0	0		0			0	
23		0	0	0	1.7	0		0			0	
24		0	0	0	31	0		0			0	
25		0	0	0	3.1	54		2.9			0	
26		0	0	0	0	2.9		0			0	
27		0	0	0	0	0		0			0	
28		0	0	0	0	0		0			0	
29		0	0	0	---	0		0			0	
30		0	2.5	0	---	0		0			0	
31		---	8.7	0	---	0	---	0	---		0	---
TOTAL	0	50	11.2	291.6	35.8	67.9	0	2.9	0	0	225	0
MEAN	0	1.67	.36	9.41	1.28	2.19	0	.094	0	0	7.26	0
MAX	0	50	8.7	147	31	54	0	2.9	0	0	179	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	99	22	578	71	135	0	5.8	0	0	446	0
CAL YR 1976	TOTAL	1386.73	MEAN 3.79	MAX 350	MIN 0	AC-FT 2750						
WTR YR 1977	TOTAL	684.40	MEAN 1.88	MAX 179	MIN 0	AC-FT 1360						

## SANTA ANA RIVER BASIN

11078100 SANTA ANA RIVER AT ADAMS AVENUE, NEAR COSTA MESA, CA--Continued

## WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: October 1973 to current year.

SEDIMENT RECORDS: October 1973 to current year.

REMARKS.--All temperature values are found in the table of particle-size distribution of suspended sediment.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 10,200 mg/l Jan. 9, 1974; minimum daily mean, no flow for many days each year.

SEDIMENT DISCHARGE: Maximum daily, 27,800 tons (25,200 tonnes) Jan. 9, 1974; minimum daily, 0 tons on many days each year.

EXTREMES FOR CURRENT YEAR.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 2,770 mg/l Aug. 17; minimum daily mean, no flow for many days.

SEDIMENT DISCHARGE: Maximum daily, 3,180 tons (2,880 tonnes) Aug. 17; minimum daily, 0 tons on many days.

## SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	OCTOBER			NOVEMBER			DECEMBER		
	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1				0	0	0	0	0	0
2				0	0	0	0	0	0
3				0	0	0	0	0	0
4				0	0	0	0	0	0
5				0	0	0	0	0	0
6				0	0	0	0	0	0
7				0	0	0	0	0	0
8				0	0	0	0	0	0
9				0	0	0	0	0	0
10				0	0	0	0	0	0
11				0	0	0	0	0	0
12				50	1250	653	0	0	0
13				0	0	0	0	0	0
14				0	0	0	0	0	0
15				0	0	0	0	0	0
16				0	0	0	0	0	0
17				0	0	0	0	0	0
18				0	0	0	0	0	0
19				0	0	0	0	0	0
20				0	0	0	0	0	0
21				0	0	0	0	0	0
22				0	0	0	0	0	0
23				0	0	0	0	0	0
24				0	0	0	0	0	0
25				0	0	0	0	0	0
26				0	0	0	0	0	0
27				0	0	0	0	0	0
28				0	0	0	0	0	0
29				0	0	0	0	0	0
30				0	0	0	2.5	32	1.1
31				---	---	---	8.7	92	2.9
TOTAL	0	0	0	50.00	---	653.00	11.20	---	4.00

11078100 SANTA ANA RIVER AT ADAMS AVENUE, NEAR COSTA MESA, CA--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	JANUARY			FEBRUARY			MARCH		
	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0
3	71	919	840	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0
6	147	1870	1180	0	0	0	0	0	0
7	65	488	116	0	0	0	0	0	0
8	8.6	99	2.6	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	11	207	13
18	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0
23	0	0	0	1.7	24	.57	0	0	0
24	0	0	0	31	486	175	0	0	0
25	0	0	0	3.1	123	4.0	54	629	228
26	0	0	0	0	0	0	2.9	74	1.4
27	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0
29	0	0	0	---	---	---	0	0	0
30	0	0	0	---	---	---	0	0	0
31	0	0	0	---	---	---	0	0	0
TOTAL	291.60	---	2138.60	35.80	---	179.57	67.90	---	242.40

DAY	APRIL			MAY			JUNE		
	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1				0	0	0			
2				0	0	0			
3				0	0	0			
4				0	0	0			
5				0	0	0			
6				0	0	0			
7				0	0	0			
8				0	0	0			
9				0	0	0			
10				0	0	0			
11				0	0	0			
12				0	0	0			
13				0	0	0			
14				0	0	0			
15				0	0	0			
16				0	0	0			
17				0	0	0			
18				0	0	0			
19				0	0	0			
20				0	0	0			
21				0	0	0			
22				0	0	0			
23				0	0	0			
24				0	0	0			
25				2.9	74	1.5			
26				0	0	0			
27				0	0	0			
28				0	0	0			
29				0	0	0			
30				0	0	0			
31				0	0	0			
TOTAL	0	0	0	2.90	---	1.50	0	0	0

## SANTA ANA RIVER BASIN

11078100 SANTA ANA RIVER AT ADAMS AVENUE, NEAR COSTA MESA, CA--Continued

## SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	JULY			AUGUST			SEPTEMBER		
	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1				0	0	0			
2				0	0	0			
3				0	0	0			
4				0	0	0			
5				0	0	0			
6				0	0	0			
7				0	0	0			
8				0	0	0			
9				0	0	0			
10				0	0	0			
11				0	0	0			
12				0	0	0			
13				0	0	0			
14				0	0	0			
15				0	0	0			
16				0	0	0			
17				179	2770	3180			
18				46	702	125			
19				0	0	0			
20				0	0	0			
21				0	0	0			
22				0	0	0			
23				0	0	0			
24				0	0	0			
25				0	0	0			
26				0	0	0			
27				0	0	0			
28				0	0	0			
29				0	0	0			
30				0	0	0			
31				0	0	0			
TOTAL	0	0	0	225.00	---	3305.00	0	0	0
YEAR	684.40		6524.07						

## SUMMARY OF WATER AND SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

MONTH	WATER DISCHARGE CFS-DAYS	SUSPENDED SEDIMENT DISCHARGE TONS	BEDLOAD DISCHARGE TONS	TOTAL SEDIMENT DISCHARGE TONS
OCTOBER 1976	0.0	0.0	0	0
NOVEMBER ...	50.00	653.00	34	687
DECEMBER ...	11.20	4.00	1	5
JANUARY 1977	291.60	2138.60	342	2480
FEBRUARY ...	35.80	179.57	14	194
MARCH .....	67.90	242.40	41	283
APRIL .....	0.0	0.0	0	0
MAY .....	2.90	1.50	0	2
JUNE .....	0.0	0.0	0	0
JULY .....	0.0	0.0	0	0
AUGUST .....	225.00	3305.00	332	3640
SEPTEMBER ..	0.0	0.0	0	0
TOTAL .....	684.40	6524.07	764	7291

## 11078100 SANTA ANA RIVER AT ADAMS AVENUE, NEAR COSTA MESA, CA--Continued

## PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	TEMPER- ATURE (DEG C)	INSTAN- TANEOUS DIS- CHARGE (CFS)	SUS- PENDE SEDIM- ENT (MG/L)	SUS- PENDE SEDIM- ENT DIS- CHARGE (T/DAY)	SUS. SED. FALL DIAM. % FINER THAN .002 MM	SUS. SED. FALL DIAM. % FINER THAN .004 MM	SUS. SED. FALL DIAM. % FINER THAN .008 MM	SUS. SED. FALL DIAM. % FINER THAN .016 MM	SUS. SED. FALL DIAM. % FINER THAN .031 MM
NOV										
12...	1040	16.0	78	1580	333	35	49	63	77	86
JAN										
03...	0845	11.5	170	2990	1370	30	31	46	59	73
06...	0615	10.0	112	1430	432	34	47	59	70	80
07...	1650	13.0	55	268	40	34	47	57	68	77
FEB										
25...	1100	11.5	.50	94	.13	--	--	--	--	--
MAR										
25...	0730	12.5	205	1850	1020	41	54	68	82	91
25...	1220	12.5	28	590	45	50	63	74	82	86
AUG										
18...	1140	27.5	23	487	30	35	49	61	73	79

DATE	SUS. SED. FALL DIAM. % FINER THAN .062 MM	SUS. SED. SIEVE DIAM. % FINER THAN .062 MM	SUS. SED. FALL DIAM. % FINER THAN .125 MM	SUS. SED. SIEVE DIAM. % FINER THAN .125 MM	SUS. SED. FALL DIAM. % FINER THAN .250 MM	SUS. SED. SIEVE DIAM. % FINER THAN .250 MM	SUS. SED. FALL DIAM. % FINER THAN .500 MM	SUS. SED. SIEVE DIAM. % FINER THAN .500 MM	SUS. SED. FALL DIAM. % FINER THAN 1.00 MM	SUS. SED. SIEVE DIAM. % FINER THAN 1.00 MM
NOV										
12...	93	--	97	--	100	--	--	--	--	--
JAN										
03...	87	--	98	--	100	--	--	--	--	--
06...	87	--	92	--	97	--	99	--	100	--
07...	--	82	--	92	--	96	--	99	--	100
FEB										
25...	--	97	--	99	--	100	--	--	--	--
MAR										
25...	--	95	--	97	--	99	--	100	--	--
25...	--	88	--	93	--	95	--	100	--	--
AUG										
18...	81	--	84	--	91	--	100	--	--	--

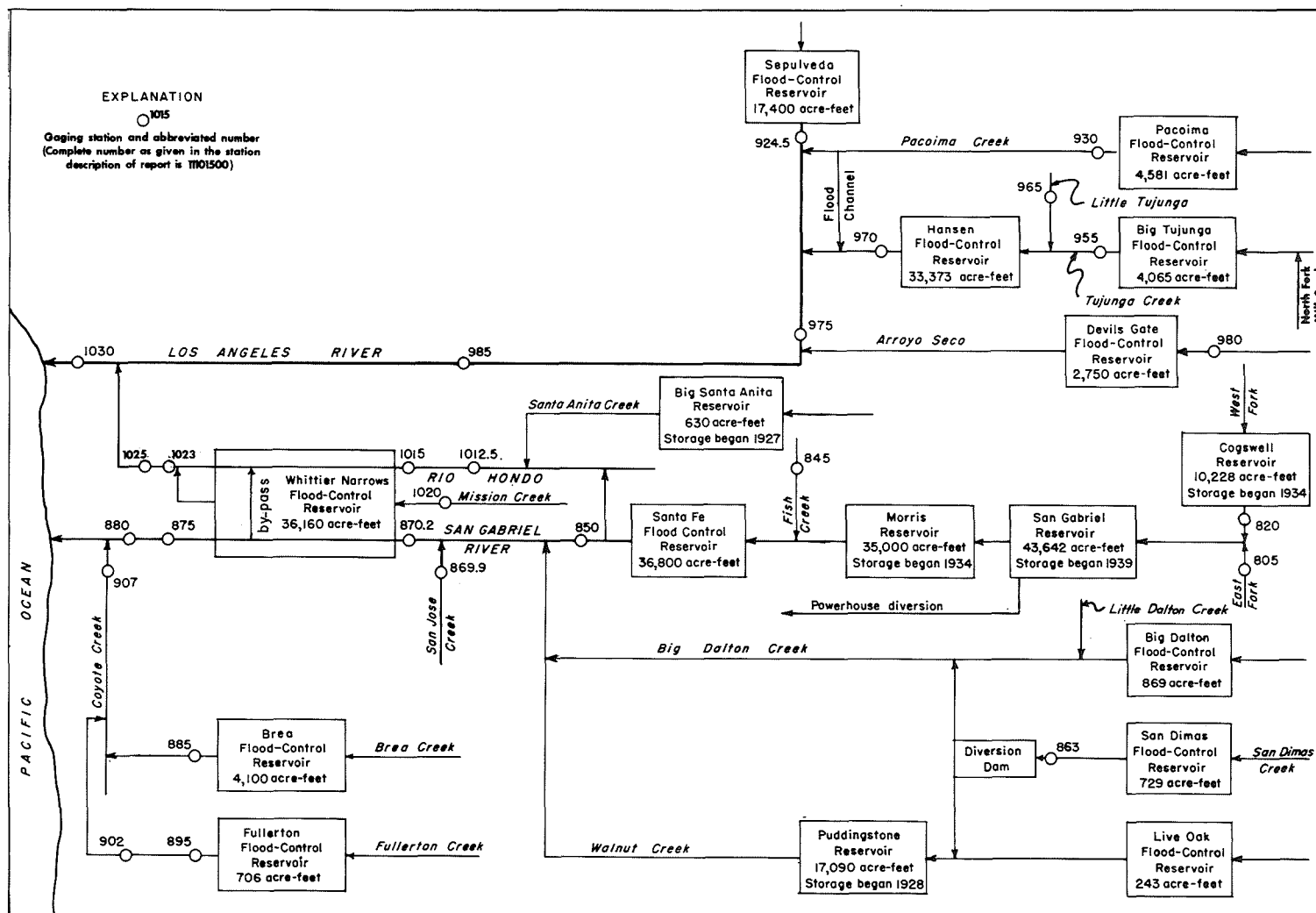


Figure 6.--Schematic diagram showing diversions and storage in San Gabriel and Los Angeles River basins.

## 11080500 EAST FORK SAN GABRIEL RIVER NEAR CAMP BONITA, CA

LOCATION.--Lat 34°14'09", long 117°48'18", in NE¼NE¼ sec.27, T.2 N., R.9 W., Los Angeles County, on right bank 1,600 ft (400 m) upstream from mouth of Graveyard Canyon, 2.5 mi (4.0 km) upstream from confluence with West Fork, and 2.5 mi (4.0 km) west of Camp Bonita.

DRAINAGE AREA.--84.6 mi<sup>2</sup> (219.1 km<sup>2</sup>).

PERIOD OF RECORD.--December 1932 to current year. Prior to 1940, published as San Gabriel River near Camp Bonita.

GAGE.--Water-stage recorder. Datum of gage is 1,567.04 ft (477.634 m) above mean sea level (levels by Los Angeles County Flood Control District). Prior to Dec. 10, 1938, at site 0.6 mi (1.0 km) downstream at different datum.

REMARKS.--Records fair. No regulation or diversion above station. See schematic diagram of San Gabriel and Los Angeles River basins.

COOPERATION.--Records were furnished by Los Angeles County Flood Control District.

AVERAGE DISCHARGE.--44 years (water years 1934-77), 66.7 ft<sup>3</sup>/s (1.889 m<sup>3</sup>/s), 48,320 acre-ft/yr (59.6 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 46,000 ft<sup>3</sup>/s (1,300 m<sup>3</sup>/s) Mar. 2, 1938, from rating curve extended above 21,300 ft<sup>3</sup>/s (603 m<sup>3</sup>/s), computed by Geological Survey; minimum 1.5 ft<sup>3</sup>/s (0.042 m<sup>3</sup>/s) Oct. 1, 1934.

EXTREMES FOR CURRENT YEAR.--Maximum discharge 507 ft<sup>3</sup>/s (14.4 m<sup>3</sup>/s) Jan. 3, gage height, 9.83 ft (2.996 m); minimum daily, 13.0 ft<sup>3</sup>/s (0.37 m<sup>3</sup>/s) Dec. 26-29 and Sept. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26	16	19	15	30	24	27	24	70	30	19	17
2	25	16	19	19	29	24	26	24	66	31	19	17
3	24	15	18	101	28	24	26	23	63	32	18	16
4	22	15	17	28	28	23	25	24	60	32	18	14
5	22	16	17	30	28	23	26	25	59	30	17	13
6	21	15	17	69	28	21	26	24	58	28	18	14
7	21	15	16	99	28	21	27	24	58	28	20	14
8	20	15	16	63	27	20	28	95	57	28	19	14
9	20	15	16	51	28	20	29	130	57	28	18	15
10	19	15	15	38	27	19	29	92	55	28	18	15
11	20	16	15	35	26	19	28	76	53	25	17	15
12	20	39	15	31	26	19	28	62	50	24	16	15
13	20	19	14	31	27	19	27	55	49	24	17	15
14	19	17	15	34	26	20	28	63	46	23	17	15
15	18	18	15	35	26	20	28	65	44	23	16	15
16	18	18	15	36	26	27	28	63	42	23	17	15
17	17	17	15	39	26	24	28	63	41	23	45	15
18	17	17	15	40	26	23	28	67	42	24	35	15
19	16	17	15	32	25	23	28	70	42	23	26	14
20	16	16	15	33	24	22	27	71	41	23	22	15
21	20	16	15	35	24	21	26	86	39	23	20	14
22	32	15	14	31	24	21	26	104	38	22	20	14
23	37	16	14	31	26	21	26	106	36	21	20	14
24	33	17	14	32	28	22	26	97	35	20	19	14
25	28	17	14	31	26	36	26	85	35	19	18	14
26	23	18	13	32	26	31	26	79	34	19	18	14
27	20	18	13	34	25	28	26	77	34	19	18	14
28	19	19	13	33	24	29	25	79	32	18	18	14
29	19	20	13	31	---	29	24	78	31	19	17	14
30	19	19	18	31	---	28	25	76	30	19	17	14
31	19	---	16	31	---	28	---	74	---	18	17	---
TOTAL	670	522	476	1211	742	729	803	2081	1397	747	614	438
MEAN	21.6	17.4	15.4	39.1	26.5	23.5	26.8	67.1	46.6	24.1	19.8	14.6
MAX	37	39	19	101	30	36	29	130	70	32	45	17
MIN	16	15	13	15	24	19	24	23	30	18	16	13
AC-FT	1330	1040	944	2400	1470	1450	1590	4130	2770	1480	1220	869
CAL YR 1976	TOTAL	11650.7	MEAN 31.8	MAX 389	MIN	8.7	AC-FT	23110				
WTR YR 1977	TOTAL	10430.0	MEAN 28.6	MAX 130	MIN	13	AC-FT	20690				





## 11082800 SAN GABRIEL RIVER AT AZUSA POWERHOUSE, AT AZUSA, CA

LOCATION.--Lat 34°09'18", long 117°54'26', in NE¼SE¼ sec.22, T.1 N., R.10 W., Los Angeles County, at tailrace of Azusa Powerhouse, and 1 mi (2 km) north of Azusa.

PERIOD OF RECORD.--Chemical analyses: December 1907 to December 1908, water year 1967 to current year.

REMARKS.--Records of discharge were furnished by Los Angeles County Flood Control District.

COOPERATION.--Chemical-quality records were furnished by California Department of Water Resources.

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (JTU)	DIS-SOLVED OXYGEN (MG/L)	NON-CARBONATE HARDNESS (MG/L)	DIS-SOLVED CALCIUM (CA) (MG/L)	DIS-SOLVED MAGNESIUM (MG)
OCT										
05...	1220	70	342	8.0	21.1	2	8.5	11	47	10
27...	1305	70	390	8.1	17.8	10	9.0	0	54	12
DEC										
02...	0830	26	390	8.1	12.2	3	10.3	11	59	13
JAN										
10...	0900	27	350	8.0	8.3	16	11.2	16	53	11
30...	1300	50	370	8.0	10.0	6	10.8	16	53	12
MAR										
01...	0830	39	400	8.2	11.7	2	10.4	18	54	13
APR										
04...	1255	24	370	8.2	13.3	1	10.5	18	55	12
26...	1115	26	370	8.1	15.6	2	9.7	13	54	11
MAY										
19...	0900	26	330	7.9	13.9	5	9.9	1	45	10
JUN										
13...	1150	45	340	7.9	13.9	1	10.3	4	48	10

DATE	DIS-SOLVED SODIUM (NA) (MG/L)	PERCENT SODIUM	SODIUM ADSORPTION RATIO	DIS-SOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	ALKALINITY AS CaCO3 (MG/L)	CARBON DIOXIDE (CO2) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)
OCT									
05...	10	12	.3	4.0	180	0	150	2.9	27
27...	11	11	.4	4.0	220	0	180	2.8	26
DEC									
02...	11	10	.3	4.0	230	0	190	2.9	29
JAN									
10...	10	11	.3	2.0	200	0	170	3.2	26
30...	9.0	10	.3	2.0	200	0	170	3.2	28
MAR									
01...	9.0	9	.3	2.0	210	0	170	2.1	26
APR									
04...	9.0	9	.3	2.0	210	0	170	2.1	29
26...	9.0	10	.3	3.0	200	2	170	2.6	29
MAY									
19...	11	13	.4	3.0	170	6	150	3.7	24
JUN									
13...	11	13	.4	3.0	190	0	160	3.8	25

DATE	DIS-SOLVED CHLORIDE (CL) (MG/L)	DIS-SOLVED FLUORIDE (F) (MG/L)	DIS-SOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	DIS-SOLVED NITRATE (N) (MG/L)	DIS-SOLVED NITRATE (NO3) (MG/L)	DIS-SOLVED BORON (B) (UG/L)	TOTAL MERCURY (UG/L)
OCT									
05...	3.5	.5	182	.25	34.4	.56	2.5	120	--
27...	3.5	.5	194	.26	36.7	.59	2.6	90	--
DEC									
02...	5.0	.4	214	.29	15.0	.59	2.6	100	--
JAN									
10...	3.0	.5	221	.30	16.1	.68	3.0	40	--
30...	3.0	.5	217	.30	29.3	.90	4.0	60	--
MAR									
01...	3.0	.5	253	.34	26.6	.47	2.1	90	--
APR									
04...	3.0	.4	240	.33	15.6	.38	1.7	200	--
26...	2.0	.4	241	.33	16.9	.18	.80	70	--
MAY									
19...	2.0	.4	130	.18	9.13	.29	1.3	70	<.5
JUN									
13...	2.0	.4	161	.22	19.6	.38	1.7	70	--

## 11084500 FISH CREEK NEAR DUARTE, CA

LOCATION.--Lat 34°09'57", long 117°55'24", in SW¼SW¼SW¼ sec.15, T.1 N., R.10 W., Los Angeles County, on left bank 0.8 mi (1.3 km) upstream from mouth of canyon, and 3.2 mi (5.1 km) northeast of Duarte.

DRAINAGE AREA.--6.36 mi<sup>2</sup> (16.47 km<sup>2</sup>).

PERIOD OF RECORD.--July to September 1916, July 1917 to current year.

GAGE.--Water-stage recorder. Broad-crested weir since July 1917, restored in December 1938. Datum of gage is 905.9 ft (276.12 m) above mean sea level. See WSP 1315-B for history of changes prior to Dec. 7, 1938. Dec. 7, 1938, to Oct. 3, 1951, at datum 1.00 ft (0.305 m) higher.

REMARKS.--Records poor. No regulation or diversion above station. See schematic diagram of San Gabriel and Los Angeles River basins.

COOPERATION.--Records were furnished by Los Angeles County Flood Control District.

AVERAGE DISCHARGE.--60 years (water years 1918-77), 4.46 ft<sup>3</sup>/s (0.126 m<sup>3</sup>/s), 3,230 acre-ft/yr (3.98 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,000 ft<sup>3</sup>/s (368 m<sup>3</sup>/s) Jan. 25, 1969, gage height, 11.98 ft (3.652 m), from inside gage, from rating curve extended above 1,100 ft<sup>3</sup>/s (31.2 m<sup>3</sup>/s) on basis of slope-area measurement of maximum flow; maximum gage height, about 14.5 ft (4.42 m) Feb. 11, 16, 1959 (from debris wave); no flow at times in some years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge and gage height unknown; no flow July 25 to Aug. 16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.50	.50	.50	1.0	.90	.80	.90	.60	.90	.20	0	.20
2	.60	.40	.50	1.2	.80	.80	.90	.60	.90	.20	0	.20
3	.60	.40	.40	21	.70	.70	.90	.60	.90	.20	0	.20
4	.60	.40	.40	1.3	.70	.70	.90	.60	.80	.20	0	.20
5	.50	.40	.50	3.6	.60	.70	.90	.60	.80	.20	0	.20
6	.50	.40	.50	10	.60	.70	.80	.60	.80	.20	0	.10
7	.50	.50	.50	14	.70	.70	.80	.60	.80	.20	0	.10
8	.50	.50	.40	5.8	.60	.60	.80	30	.70	.20	0	.10
9	.50	.50	.40	1.9	.60	.60	.80	45	.70	.20	0	.10
10	.40	.50	.40	1.3	.60	.60	.80	15	.70	.20	0	.10
11	.50	.50	.40	1.1	.60	.60	.80	8.0	.70	.10	0	.10
12	.50	1.7	.40	1.3	.60	.60	.70	4.0	.60	.10	0	.10
13	.50	.90	.40	1.3	.50	.50	.70	2.8	.60	.10	0	.10
14	.60	.60	.40	1.3	.50	.50	.70	2.2	.60	.10	0	.10
15	.70	.50	.40	1.2	.50	.50	.70	1.8	.60	.10	0	.10
16	.60	.50	.40	1.1	.50	1.0	.70	1.6	.50	.10	0	.10
17	.50	.60	.40	1.1	.50	3.0	.70	1.6	.50	.10	1.0	.10
18	.50	.60	.40	1.0	.50	1.0	.70	1.5	.50	.10	.80	.10
19	.60	.60	.40	1.0	.50	.80	.70	1.4	.50	.10	.40	.10
20	.50	.60	.40	1.0	.50	.60	.70	1.4	.50	.10	.30	.10
21	.50	.60	.40	1.2	.50	.50	.70	1.3	.40	.10	.20	.10
22	7.4	.50	.40	1.1	.50	.50	.70	1.2	.40	.10	.20	.20
23	1.5	.50	.40	.90	.50	.50	.70	1.8	.40	.10	.20	.20
24	.90	.50	.50	.80	1.0	1.0	.70	1.5	.40	.10	.20	.20
25	.60	.50	.40	.80	1.0	10	.70	1.4	.40	0	.20	.20
26	.50	.50	.40	.80	.90	5.0	.70	1.3	.30	0	.20	.20
27	.50	.50	.40	.80	.90	3.0	.60	1.2	.30	0	.30	.20
28	.50	.50	.40	.80	.80	1.0	.60	1.1	.30	0	.20	.30
29	.50	.50	.40	.80	---	1.0	.60	1.1	.30	0	.20	.20
30	.50	.50	1.5	.90	---	1.0	.60	1.0	.30	0	.20	.30
31	.50	---	1.2	.80	---	1.0	---	1.0	---	0	.20	---
TOTAL	24.60	16.70	14.90	82.20	18.10	40.50	22.20	134.40	17.10	3.40	4.80	4.60
MEAN	.79	.56	.48	2.65	.65	1.31	.74	4.34	.57	.11	.15	.15
MAX	7.4	1.7	1.5	21	1.0	10	.90	45	.90	.20	1.0	.30
MIN	.40	.40	.40	.80	.50	.50	.60	.60	.30	0	0	.10
AC-FT	49	33	30	163	36	80	44	267	34	6.7	9.5	9.1

CAL YR 1976 TOTAL 517.80 MEAN 1.41 MAX 41 MIN .10 AC-FT 1030  
WTR YR 1977 TOTAL 383.50 MEAN 1.05 MAX 45 MIN 0 AC-FT 761

## 11085000 SAN GABRIEL RIVER BELOW SANTA FE DAM, NEAR BALDWIN PARK, CA

LOCATION.--Lat 34°06'44", long 117°58'07", in SE¼NE¼SW¼ sec.6, T.1 S., R.10 W., Los Angeles County, on left bank at stilling basin of outlet of Santa Fe flood-control dam, 500 ft (152 m) downstream from axis of dam, and 1.7 mi (2.7 km) north of Baldwin Park.

DRAINAGE AREA.--236 mi<sup>2</sup> (611 km<sup>2</sup>).

PERIOD OF RECORD.--October 1942 to current year.

GAGE.--Water-stage recorder. Datum of gage is 400.00 ft (121.920 m) above mean sea level (levels by Corps of Engineers).

REMARKS.--Records fair. Flow regulated by Cogswell and San Gabriel flood-control reservoirs, combined capacity, 53,870 acre-ft (66.4 hm<sup>3</sup>), Morris Reservoir, capacity, 35,000 acre-ft (43.2 hm<sup>3</sup>), and Santa Fe flood-control reservoir, capacity, 32,640 acre-ft (40.2 hm<sup>3</sup>). Diversions above station for irrigation, power development, and ground-water replenishment. At times water diverted from side of stilling basin to headwaters of Rio Hondo; 11,160 acre-ft (13.8 hm<sup>3</sup>) were diverted during current year. See schematic diagram of San Gabriel and Los Angeles River basins.

COOPERATION.--Records of diversions to Rio Hondo were furnished by Los Angeles County Flood Control District.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 30,900 ft<sup>3</sup>/s (875 m<sup>3</sup>/s) Jan. 26, 1969, gage height, 22.20 ft (6.767 m); no flow for several months in each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 60 ft<sup>3</sup>/s (1.70 m<sup>3</sup>/s) May 16, gage height, 10.57 ft (3.22 m); no flow most of year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1								0				
2								0				
3								0				
4								0				
5								0				
6								0				
7								0				
8								0				
9								0				
10								0				
11								0				
12								1.6				
13								2.8				
14								2.2				
15								1.5				
16								21				
17								12				
18								9.7				
19								9.9				
20								9.8				
21								9.6				
22								9.9				
23								11				
24								.50				
25								.04				
26								.03				
27								0				
28								0				
29					---			0				
30					---			0				
31		---			---		---	0	---			---
TOTAL	0	0	0	0	0	0	0	101.57	0	0	0	0
MEAN	0	0	0	0	0	0	0	3.28	0	0	0	0
MAX	0	0	0	0	0	0	0	21	0	0	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	0	0	0	0	0	0	201	0	0	0	0
CAL YR 1976	TOTAL	10.28	MEAN .028	MAX	2.3	MIN 0	AC-FT 20					
WTR YR 1977	TOTAL	101.57	MEAN .28	MAX	21	MIN 0	AC-FT 201					

## SAN GABRIEL RIVER BASIN

11086300 SAN DIMAS CREEK BELOW SAN DIMAS DAM, CA

LOCATION.--Lat 34°09'10", long 117°46'18", in SW¼SE¼ sec.24, T.1 N., R.9 W., Los Angeles County, on left bank 1,000 ft (305 m) downstream from San Dimas Dam, and 3.7 mi (6.0 km) northeast of San Dimas.

DRAINAGE AREA.--16.3 mi<sup>2</sup> (42.2 km<sup>2</sup>).

PERIOD OF RECORD.--October 1951 to current year. Prior to October 1956 monthly discharge only, published in WSP 1735.

GAGE.--Water-stage recorder and low-flow concrete control. Datum of gage is 1,325.0 ft (403.86 m) above mean sea level (levels by Los Angeles County Flood Control District).

REMARKS.--Records fair. Flow regulated by San Dimas flood-control reservoir, capacity, 756 acre-ft (932,000 m<sup>3</sup>) and at times by old water tunnel 150 ft (45 m) upstream. No diversion above station. See schematic diagram of San Gabriel and Los Angeles River basins.

COOPERATION.--Records were furnished by Los Angeles County Flood Control District.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,280 ft<sup>3</sup>/s (121 m<sup>3</sup>/s) Jan. 25, 1969, gage height, 6.98 ft (2.128 m), from rating curve extended above 600 ft<sup>3</sup>/s (17.0 m<sup>3</sup>/s) on basis of computation of maximum flow over dam; no flow at times in most years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.2	.90	.90	.30	.20	.10	15	.80	.70	.20	.10	.40
2	1.2	.70	.90	.30	.20	.10	18	1.0	.80	.20	0	.30
3	1.2	.90	.90	.40	.30	.10	15	1.0	.80	.20	.10	.30
4	1.2	.70	1.0	.30	.40	.10	12	.80	.50	.20	.10	.30
5	1.2	.70	1.0	.40	.40	.40	12	.80	.80	.30	.10	.30
6	1.2	.90	1.0	.50	.40	.80	15	1.0	.80	.30	.10	.30
7	1.0	.70	1.0	.50	.40	.80	20	1.1	.70	.30	.10	.30
8	.70	.60	.30	.40	.40	.50	20	12	.70	.30	.10	.30
9	.70	.60	.10	.40	.40	.50	19	26	1.0	.30	.10	.30
10	.70	.70	.20	.40	.40	.30	18	8.7	.80	.30	.10	.30
11	.70	.70	.70	.50	.40	.30	17	4.4	.70	.40	.10	.30
12	.70	.20	.70	.50	.40	.30	16	2.1	.70	.30	.10	.30
13	.70	.10	.60	.40	.40	.30	14	1.2	1.0	.30	.10	.30
14	.90	.10	.60	.50	.40	.20	12	1.2	.80	.30	.10	.30
15	.90	.10	.40	.40	.40	.20	3.3	1.1	.70	.30	.10	.30
16	.70	.10	.40	.30	.40	.30	1.7	1.2	.70	.30	.10	.30
17	.60	.10	.40	.30	.40	.20	1.4	1.4	.70	.30	4.7	.40
18	.70	.10	.40	.30	.40	.20	1.4	1.2	.80	.30	1.5	.30
19	.70	.30	.40	.20	.30	.20	1.8	1.0	.70	.30	1.1	.30
20	.40	1.2	.40	13	.40	.20	1.5	1.0	.70	.30	.70	.30
21	.30	1.2	.40	17	.40	.20	1.4	.80	.70	.20	.40	.30
22	.50	1.0	.40	5.6	.40	.20	1.2	.70	.50	.10	.40	.30
23	.30	.90	.40	13	.40	.20	1.1	1.1	.50	.10	.30	.30
24	1.0	.70	.40	15	.30	.20	1.1	2.1	.40	.10	.20	.30
25	1.0	.70	.30	.30	.10	.20	1.1	1.7	.40	.10	.30	.20
26	.90	.90	.30	.30	.10	.20	1.0	1.1	.30	.10	.50	.30
27	.90	.70	.30	.20	.10	.20	1.0	.80	.30	.10	.50	.30
28	.70	.90	.30	.20	.10	11	2.1	.80	.30	0	.50	.20
29	.70	.90	.30	.20	---	14	1.5	.70	.30	.10	.30	.20
30	.70	.90	.30	.20	---	13	1.0	.70	.20	.10	.30	.20
31	.70	---	.30	.20	---	13	---	.70	---	.10	.40	---
TOTAL	25.00	19.20	16.00	72.50	9.30	58.50	246.6	80.20	19.00	6.80	13.50	8.80
MEAN	.81	.64	.52	2.34	.33	1.89	4.22	2.59	.63	.22	.44	.29
MAX	1.2	1.2	1.0	17	.40	14	20	26	1.0	.40	4.7	.40
MIN	.30	.10	.10	.20	.10	.10	1.0	.70	.20	0	0	.20
AC-FT	50	38	32	144	18	116	489	159	38	13	27	17
CAL YR 1976	TOTAL 483.38		MEAN 1.32	MAX	9.3	MIN .04	AC-FT	959				
WTR YR 1977	TOTAL 575.40		MEAN 1.58	MAX	26	MIN 0	AC-FT	1140				

## 11086990 SAN JOSE CREEK NEAR EL MONTE, CA

LOCATION.--Lat 34°01'55", long 118°00'40", in El Monte Grant, Los Angeles County, on right bank of San Jose flood channel, 1,650 ft (503 m) upstream from Workman Mill Road, and 2.7 mi (4.3 km) southeast of El Monte.

DRAINAGE AREA.--87.8 mi<sup>2</sup> (227 km<sup>2</sup>).

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

GAGE.--Water-stage recorder. Datum of gage is 248.52 ft (75.749 m) above mean sea level (levels by Los Angeles County Flood Control District).

REMARKS.--Records poor. No regulation above station. One small diversion for ground-water recharge. At times effluent from city of Pomona's sewage reclamation plant is released to creek above Spadra and at Lemon Street. Bypass to the original San Jose Creek channel has been closed since Oct. 1, 1964. See schematic diagram of San Gabriel and Los Angeles River basins.

COOPERATION.--Records were furnished by Los Angeles County Flood Control District.

AVERAGE DISCHARGE.--13 years, 32.5 ft<sup>3</sup>/s (0.920 m<sup>3</sup>/s), 23,550 acre-ft/yr (29.0 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,200 ft<sup>3</sup>/s (289 m<sup>3</sup>/s) Jan. 24, 1967, gage height, 6.80 ft (2.073 m), from outside gage; no flow at times in some years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,580 ft<sup>3</sup>/s (101 m<sup>3</sup>/s) Aug. 17, gage height, 4.42 ft (1.347 m); minimum daily, 3.0 ft<sup>3</sup>/s (0.085 m<sup>3</sup>/s) July 14, 15, 30, Aug. 27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	10	11	26	14	9.0	11	8.0	8.0	7.0	5.0	5.0
2	13	9.0	8.0	126	13	11	13	5.0	8.0	6.0	4.0	5.0
3	14	11	10	475	11	11	11	4.0	9.0	6.0	8.0	7.0
4	14	11	10	22	11	11	11	6.0	8.0	7.0	6.0	8.1
5	14	10	11	248	11	11	9.0	8.0	8.0	6.0	9.0	9.0
6	13	10	9.0	368	11	11	11	7.0	7.0	6.0	11	8.0
7	13	10	9.0	203	13	13	13	7.0	8.0	4.0	11	7.0
8	11	10	10	14	13	13	13	585	7.0	4.0	9.0	6.0
9	10	11	8.0	13	13	13	13	546	8.0	5.0	9.0	7.0
10	11	11	9.0	13	13	10	13	18	7.0	5.0	10	8.0
11	13	13	11	11	11	10	11	10	8.0	5.0	10	8.0
12	11	298	11	13	13	11	11	11	8.0	5.0	9.0	8.0
13	13	17	10	11	11	11	10	9.0	7.0	4.0	7.0	7.0
14	14	15	10	11	11	11	10	9.0	8.0	3.0	8.0	6.0
15	14	17	11	11	11	10	9.0	9.0	7.0	3.0	8.0	7.0
16	14	14	11	11	10	185	10	10	8.0	5.0	27	7.0
17	14	9.0	10	10	10	20	10	9.0	6.0	5.0	816	9.0
18	14	10	13	11	9.0	13	9.0	9.0	8.0	5.0	5.5	8.0
19	13	11	11	10	9.0	10	7.0	8.0	10	4.0	4.0	8.0
20	13	10	13	14	11	11	8.0	9.0	9.0	4.0	5.0	6.0
21	13	11	9.0	40	9.0	11	6.0	7.0	7.0	5.0	6.0	7.0
22	80	11	8.0	11	11	9.0	7.0	10	7.0	5.0	7.0	6.0
23	30	10	9.0	11	39	9.0	9.0	38	8.0	7.0	5.0	9.0
24	11	11	11	13	215	14	10	29	7.0	7.0	7.0	9.0
25	13	10	11	15	14	233	9.0	11	10	4.0	7.0	9.0
26	11	10	11	25	11	24	6.0	10	8.0	4.0	6.0	9.0
27	13	10	11	11	11	11	8.0	10	7.0	4.0	3.0	10
28	11	10	10	13	13	8.0	9.0	10	8.0	7.0	8.0	9.0
29	11	10	10	11	---	9.0	9.0	9.0	8.0	6.0	5.0	10
30	11	10	396	11	---	10	9.0	9.0	7.0	3.0	8.0	9.0
31	10	---	177	13	---	10	---	9.0	---	6.0	6.0	---
TOTAL	473	620.0	869.0	1795	552.0	753.0	295.0	1439.0	234.0	157.0	1049.5	231.1
MEAN	15.3	20.7	28.0	57.9	19.7	24.3	9.83	46.4	7.80	5.06	33.9	7.70
MAX	80	298	396	475	215	233	13	585	10	7.0	816	10
MIN	10	9.0	8.0	10	9.0	8.0	6.0	4.0	6.0	3.0	3.0	5.0
AC-FT	938	1230	1720	3560	1090	1490	585	2850	464	311	2080	458
CAL YR 1976	TOTAL	10216.0	MEAN 27.9	MAX 1200	MIN 5.0	AC-FT 20260						
WTR YR 1977	TOTAL	8467.6	MEAN 23.2	MAX 816	MIN 3.0	AC-FT 16800						

## SAN GABRIEL RIVER BASIN

11087020 SAN GABRIEL RIVER ABOVE WHITTIER NARROWS DAM, CA

LOCATION.--Lat 34°02'00", long 118°02'14", in La Puente Grant, Los Angeles County, on downstream side of bridge near center on Peck Road, 0.8 mi (1.3 km) downstream from San Jose flood channel, 1.2 mi (1.9 km) upstream from axis of Whittier Narrows Dam, and 1.8 mi (2.9 km) south of El Monte.

DRAINAGE AREA.--353 mi<sup>2</sup> (914 km<sup>2</sup>).

PERIOD OF RECORD.--October 1955 to September 1957, October 1963 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 220 ft (67 m), from topographic map.

REMARKS.--Records fair. Flow regulated by San Gabriel, Cogswell, and Santa Fe flood-control reservoirs, combined capacity, 90,670 acre-ft (112 hm<sup>3</sup>), several small flood-control reservoirs, combined capacity, 19,100 acre-ft (23.6 hm<sup>3</sup>), and Morris Reservoir, capacity, 35,000 acre-ft (43.2 hm<sup>3</sup>). Many diversions above station for irrigation, power development, and ground-water replenishment. Colorado River water released to the San Gabriel River at a site 14.9 mi (24.0 km) upstream from gage, at Metropolitan Water District aqueduct crossing on San Dimas Creek for ground-water replenishment. 11,160 acre-ft (13.8 hm<sup>3</sup>) were diverted by Los Angeles County Flood Control District from San Gabriel River below Santa Fe Dam to Rio Hondo during current year. 215 acre-ft (0.26 hm<sup>3</sup>) were released from Puddingstone Reservoir during current year. See schematic diagram of San Gabriel and Los Angeles River basins.

COOPERATION.--Records of diversion to Rio Hondo and from Puddingstone Reservoir were furnished by Los Angeles County Flood Control District.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 46,600 ft<sup>3</sup>/s (1,320 m<sup>3</sup>/s) Jan. 25, 1969, gage height, 10.90 ft (3.322 m); no flow for part of most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,510 ft<sup>3</sup>/s (156 m<sup>3</sup>/s) Mar. 25, gage height, 6.34 ft (1.932 m); no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	4.6	7.3	26	71	35	3.8	1.5	3.5	.34	0	
2	19	3.7	5.4	13	75	40	3.5	.69	3.2	.03	0	
3	19	4.4	6.5	57	91	42	3.7	0	2.9	0	0	
4	20	4.9	5.9	66	114	44	3.7	0	2.6	0	0	
5	24	4.8	7.0	71	117	45	1.9	0	2.3	0	0	
6	46	4.4	6.2	82	119	43	1.1	.20	2.0	0	0	
7	14	4.4	6.5	87	124	45	4.6	.75	1.7	0	0	
8	3.0	4.5	7.6	16	122	44	4.3	290	1.5	0	0	
9	2.5	4.7	6.0	7.7	123	44	4.6	404	1.2	0	0	
10	1.9	5.0	6.8	7.0	123	43	4.4	41	1.1	0	0	
11	2.5	5.5	8.3	36	122	43	3.9	7.4	1.1	0	0	
12	2.7	22	8.3	59	125	44	3.5	6.5	1.1	0	0	
13	2.8	4.8	8.3	66	125	43	2.8	3.9	.60	0	0	
14	3.2	4.6	8.3	67	123	44	1.4	2.7	2.2	0	0	
15	3.9	4.2	8.9	66	124	44	.41	3.3	1.2	0	0	
16	3.5	3.9	8.9	67	122	188	.65	3.3	1.9	0	0	
17	3.2	3.6	7.8	68	121	35	1.3	2.7	1.4	0	1160	
18	4.0	4.4	8.9	71	122	6.5	2.0	4.0	.15	0	0	
19	3.6	5.2	8.5	76	121	4.0	.10	1.6	1.2	0	0	
20	3.6	4.6	8.7	79	123	4.2	0	2.4	2.6	0	0	
21	3.4	4.5	7.1	43	122	4.2	0	.95	1.4	0	0	
22	5.1	5.1	5.1	68	124	4.0	0	2.4	0	0	0	
23	13	4.9	6.5	68	130	4.0	0	31	0	0	0	
24	5.1	5.4	8.4	68	73	30	0	40	.17	0	0	
25	5.0	4.6	9.0	68	14	500	.66	7.3	1.3	0	0	
26	4.7	4.9	8.6	69	4.7	7.0	0	5.0	2.0	0	0	
27	5.3	4.8	8.6	71	3.6	1.0	0	4.8	.23	0	0	
28	4.8	5.2	7.9	71	3.9	1.0	0	4.9	.59	0	0	
29	4.7	6.0	7.6	71	---	1.0	0	4.4	1.9	0	0	
30	4.6	6.5	39	71	---	1.0	.16	4.3	1.3	0	0	
31	4.4	---	47	71	---	1.0	---	3.5	---	0	0	---
TOTAL	260.5	160.1	304.9	1826.7	2782.2	1434.9	52.48	884.49	44.34	.37	1160	0
MEAN	8.40	5.34	9.84	58.9	99.4	46.3	1.75	28.5	1.48	.012	37.4	0
MAX	46	22	47	87	130	500	4.6	404	3.5	.34	1160	0
MIN	1.9	3.6	5.1	7.0	3.6	1.0	0	0	0	0	0	0
AC-FT	517	318	605	3620	5520	2850	104	1750	88	.7	2300	0
CAL YR 1976 TOTAL	24284.00			MEAN 66.3	MAX 1460	MIN 1.9	AC-FT 48170					
WTR YR 1977 TOTAL	8910.98			MEAN 24.4	MAX 1160	MIN 0	AC-FT 17670					

## 11087040 SAN GABRIEL RIVER AT WHITTIER NARROWS, CA

LOCATION.--Lat 34°01'25", long 118°03'11", in sec.5, T.2 S., R.11 W., Los Angeles County, 200 ft (60 m) from end of San Gabriel Boulevard (Siphon Road), upstream from Whittier Narrows Dam, and 2.5 mi (4.0 km) northeast of Montebello.

PERIOD OF RECORD.--Chemical analyses: Water year 1967 to current year.

REMARKS.--Records of discharge are given for San Gabriel River above Whittier Narrows Dam (station 11087020).

COOPERATION.--Chemical-quality records were furnished by California Department of Water Resources.

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	DIS- SOLVED SOLIDS (TONS PER AC-FT)	DIS- SOLVED SOLIDS (TONS PER DAY)
OCT 05...	0955	58	560	8.4	22.8	4	11.9	57	68	224	.30	35.1
27...	1145	78	1150	8.4	22.2	18	10.4	170	140	688	.94	145
DEC 02...	1115	76	1200	8.4	14.4	4	17.3	170	140	715	.97	147
JAN 10...	1210	78	1120	8.1	11.1	10	9.9	180	110	639	.87	135
30...	1545	76	900	8.4	15.6	4	12.3	180	90	592	.81	121

## SAN GABRIEL RIVER BASIN

11087500 SAN GABRIEL RIVER AT PICO, CA

LOCATION.--Lat 34°00'47", long 118°03'48", in Paso de Bartolo Grant, Los Angeles County, on right levee 460 ft (140 m) downstream from San Gabriel River Parkway, 4,200 ft (1,280 m) downstream from axis of Whittier Narrows Dam, and 1.4 mi (2.3 km) northeast of Pico Rivera.

DRAINAGE AREA.--447 mi<sup>2</sup> (1,158 km<sup>2</sup>).

PERIOD OF RECORD.--October 1928 to current year. Since 1954 Colorado River water released to San Gabriel River above station. Since 1954 records not equivalent.

GAGE.--Water-stage recorder. Datum of gage is 181.55 ft (55.336 m) above mean sea level. See WSP 1735 for history of changes prior to Mar. 6, 1952. Mar. 6, 1952, to Aug. 9, 1968, at bridge 0.5 mi (0.8 km) downstream at datum 9.05 ft (2.758 m) lower.

REMARKS.--Records poor. Flow regulated by Cogswell Reservoir since 1934 and San Gabriel flood-control reservoir since 1939, combined capacity, 46,087 acre-ft (56.8 hm<sup>3</sup>), Morris Reservoir since 1934, capacity, 35,000 acre-ft (43.2 hm<sup>3</sup>), Santa Fe flood-control reservoir since October 1942, capacity, 36,800 acre-ft (45.4 hm<sup>3</sup>), Whittier Narrows flood-control reservoir since January 1956, capacity, 36,160 acre-ft (44.6 hm<sup>3</sup>), and several small flood-control reservoirs, combined capacity, 19,100 acre-ft (23.6 hm<sup>3</sup>). Diversions for irrigation, power development, and ground-water replenishment. For Colorado River water released to San Gabriel River for ground-water replenishment see station 11087020. During the current year, no water was diverted from the San Gabriel River below Santa Fe Dam to Rio Hondo. See schematic diagram of San Gabriel and Los Angeles River basins.

COOPERATION.--Records were furnished by Los Angeles County Flood Control District.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 22,700 ft<sup>3</sup>/s (643 m<sup>3</sup>/s) Mar. 2, 1938; no flow for periods in most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,080 ft<sup>3</sup>/s (116 m<sup>3</sup>/s) Jan. 3, gage height, 4.83 ft (1.472 m); no flow many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34	0	0	10	52	0		0	2.3	2.5	0	14
2	40	0	0	8.4	54	0		0	11	12	7.4	14
3	40	0	0	722	52	0		0	12	14	11	8.1
4	40	0	0	41	52	0		0	12	14	11	13
5	58	0	0	240	54	0		3.9	12	14	11	13
6	60	0	0	520	52	0		7.4	12	5.6	12	13
7	40	0	0	239	54	3.0		7.8	12	0	12	14
8	0	0	0	.03	54	5.0		239	5.0	0	12	13
9	0	0	0	0	52	6.0		323	0	0	12	14
10	0	0	0	.50	54	7.2		64	0	0	8.1	13
11	0	0	0	27	54	26		4.1	0	0	6.7	14
12	0	333	0	49	52	30		6.4	0	0	6.7	14
13	0	0	0	42	52	29		12	0	0	11	8.4
14	0	0	0	27	67	31		6.8	0	0	11	0
15	0	0	0	27	100	32		14	0	0	13	0
16	0	0	0	29	100	144		14	0	0	12	0
17	0	0	0	30	100	102		14	0	0	739	9.2
18	0	0	0	36	82	.03		5.7	0	0	85	12
19	0	0	0	46	64	0		12	0	0	12	8.8
20	0	0	0	50	52	0		12	0	0	12	0
21	0	0	0	25	47	7.4		12	0	0	12	7.0
22	0	0	0	27	47	11		12	0	0	11	8.8
23	33	0	0	16	40	11		12	0	0	11	8.8
24	0	0	0	34	244	12		27	0	0	11	8.1
25	0	0	0	57	22	245		0	0	0	11	8.1
26	0	0	0	55	0	21		0	0	0	11	7.4
27	0	0	0	55	0	8.1		0	0	0	10	0
28	0	0	0	55	0	12		0	0	0	10	0
29	0	0	0	55	---	12		0	0	0	10	0
30	0	0	324	55	---	7.0		0	0	0	10	0
31	0	---	43	52	---	0	---	0	---	0	10	---
TOTAL	345	333	367	2629.93	1653	761.73	0	809.1	78.3	62.1	1121.9	243.7
MEAN	11.1	11.1	11.8	84.8	59.0	24.6	0	26.1	2.61	2.00	36.2	8.12
MAX	60	333	324	722	244	245	0	323	12	14	739	14
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	684	661	728	5220	3280	1510	0	1600	155	123	2230	483
CAL YR 1976	TOTAL	12562.40	MEAN	34.3	MAX	1500	MIN	0	AC-FT	24920		
WTR YR 1977	TOTAL	8404.76	MEAN	23.0	MAX	739	MIN	0	AC-FT	16670		



## 11088000 SAN GABRIEL RIVER AT SPRING STREET, NEAR LOS ALAMITOS, CA

LOCATION.--Lat 33°48'43", long 118°05'24", in SE¼SE¼NW¼ sec.24, T.4 S., R.12 W., Los Angeles County, on right levee 455 ft (139 m) upstream from Spring Street bridge, 1.3 mi (2.1 km) upstream from Coyote Creek, and 1.3 mi (2.1 km) northwest of Los Alamitos.

DRAINAGE AREA.--472 mi<sup>2</sup> (1,222 km<sup>2</sup>).

PERIOD OF RECORD.--October 1927 to September 1951, October 1952 to current year. Monthly discharge only for October 1927 to September 1936, published in WSP 1315-B.

GAGE.--Water-stage recorder. Datum of gage is 11.87 ft (3.618 m) above mean sea level (levels by Los Angeles County Flood Control District). Prior to October 1952, at datum 4.82 ft (1.469 m) higher and from October 1952 to Nov. 17, 1964, at datum 0.38 ft (0.116 m) higher.

REMARKS.--Records poor. Regulation and diversions same as station 11087500. Additional diversion to percolation basin near Washington Boulevard and percolation basins in streambed. AVERAGE DISCHARGE represents flow to ocean during period of record regardless of upstream development. See schematic diagram of San Gabriel and Los Angeles River basins.

COOPERATION.--Records were furnished by Los Angeles County Flood Control District.

AVERAGE DISCHARGE.--49 years, 31.7 ft<sup>3</sup>/s (0.898 m<sup>3</sup>/s), 22,970 acre-ft/yr (28.3 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 27,000 ft<sup>3</sup>/s (765 m<sup>3</sup>/s), estimated, Mar. 2, 1938; no flow at times in some years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,460 ft<sup>3</sup>/s (126 m<sup>3</sup>/s) Jan. 3, gage height, 6.38 ft (1.945 m), from floodmark; minimum daily, 20 ft<sup>3</sup>/s (0.57 m<sup>3</sup>/s) Feb. 18.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	60	51	67	55	34	28	63	39	32	54	47	57
2	60	37	58	42	34	34	65	24	41	44	46	50
3	40	60	61	816	31	55	40	34	31	30	45	43
4	31	61	58	56	30	50	39	57	29	26	44	40
5	58	55	37	96	26	70	65	57	28	29	43	25
6	45	43	32	324	25	37	60	46	30	37	48	29
7	54	31	45	359	29	29	63	59	29	55	32	57
8	49	36	59	79	29	50	64	325	25	27	27	59
9	50	59	63	44	49	51	31	137	30	51	34	59
10	50	64	67	36	25	55	25	62	38	22	54	58
11	65	52	64	48	30	46	28	68	27	28	45	41
12	40	161	60	72	41	33	28	46	25	41	50	33
13	50	62	68	62	21	29	28	28	28	49	58	62
14	50	40	68	71	23	31	28	31	34	54	44	65
15	50	36	62	68	23	36	28	31	40	64	36	62
16	50	55	65	63	26	120	25	29	39	61	57	58
17	37	54	68	48	36	49	25	39	50	36	636	63
18	47	61	66	62	20	56	30	46	48	32	99	37
19	63	59	61	57	51	60	29	53	36	57	41	31
20	63	56	65	67	30	36	29	60	28	58	48	61
21	64	40	66	61	26	29	43	50	32	60	37	56
22	63	46	51	34	25	65	69	38	42	53	37	63
23	63	58	48	32	38	62	69	31	43	61	48	62
24	62	60	43	34	75	68	66	43	42	40	52	60
25	68	42	28	33	55	165	73	42	34	34	60	34
26	72	28	25	62	29	44	60	42	25	40	49	29
27	71	29	29	46	42	24	73	48	29	42	45	49
28	69	28	34	59	40	25	73	60	36	56	55	62
29	64	29	44	58	---	23	72	34	51	50	41	59
30	63	60	227	45	---	45	83	27	61	49	63	60
31	76	---	91	34	---	49	---	38	---	48	64	---
TOTAL	1747	1553	1880	3023	943	1554	1474	1724	1063	1388	2085	1524
MEAN	56.4	51.8	60.6	97.5	33.7	50.1	49.1	55.6	35.4	44.8	67.3	50.8
MAX	76	161	227	816	75	165	83	325	61	64	636	65
MIN	31	28	25	32	20	23	25	24	25	22	27	25
AC-FT	3470	3080	3730	6000	1870	3080	2920	3420	2110	2750	4140	3020
CAL YR 1976	TOTAL	21096	MEAN 57.6	MAX 660	MIN 13	AC-FT	41840					
WTR YR 1977	TOTAL	19958	MEAN 54.7	MAX 816	MIN 20	AC-FT	39590					

## SAN GABRIEL RIVER BASIN

11088500 BREA CREEK BELOW BREA DAM, NEAR FULLERTON, CA

LOCATION.--Lat 33°53'16", long 117°55'32", in NE¼NE¼NE¼ sec.28, T.3 S., R.10 W., Orange County, on right bank 0.2 mi (0.3 km) downstream from Brea Dam, and 1 mi (2 km) north of Fullerton.

DRAINAGE AREA.--21.6 mi<sup>2</sup> (55.9 km<sup>2</sup>).

PERIOD OF RECORD.--January 1942 to current year.

GAGE.--Water-stage recorder. V-notch sharp-crested weir since October 1946. Datum of gage is 196.67 ft (59.945 m) above mean sea level (levels by Corps of Engineers). Prior to Dec. 4, 1964, at datum 1.03 ft (0.314 m) higher.

REMARKS.--Records fair. Flow regulated by Brea flood-control reservoir, capacity, 4,100 acre-ft (506 hm<sup>3</sup>). No diversion above station. Since August 1966 low flow mostly the result of irrigation waste water from golf course 0.8 mi (1.3 km) upstream. See schematic diagram of San Gabriel and Los Angeles River basins.

AVERAGE DISCHARGE.--35 years, 1.25 ft<sup>3</sup>/s (0.035 m<sup>3</sup>/s), 906 acre-ft/yr (1.12 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 970 ft<sup>3</sup>/s (27.5 m<sup>3</sup>/s) Feb. 25, 1969, gage height, 6.30 ft (1.920 m), from rating curve extended above 340 ft<sup>3</sup>/s (9.63 m<sup>3</sup>/s); no flow for parts of some years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 225 ft<sup>3</sup>/s (6.37 m<sup>3</sup>/s) Aug. 17, gage height, 3.93 ft (1.198 m), on basis of slope-area measurement of maximum flow; minimum daily, 0.12 ft<sup>3</sup>/s (0.003 m<sup>3</sup>/s) June 9-11 and 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.18	.77	.19	1.6	.29	.25	.18	.21	.18	.24	.26	.18
2	.17	3.3	.22	1.1	.28	.25	.18	.26	.19	.20	.20	.19
3	.19	.30	.24	46	.27	.26	.20	.21	.17	.17	.20	.17
4	.18	.22	.21	.52	.29	.25	.21	.20	.16	.17	.20	.18
5	.25	.22	.20	11	.28	.27	.21	.21	.16	.17	.26	.17
6	.21	.22	.24	38	.28	.26	.18	.21	.15	.18	.23	.16
7	.20	.24	.22	19	.28	.26	.20	.21	.15	.20	.24	.18
8	.21	.32	.21	.80	.28	.26	.21	80	.13	.19	.19	.29
9	.20	.22	.22	.50	.28	.26	.21	48	.12	.24	.17	.33
10	.23	.21	.24	.50	.29	.28	.44	2.0	.12	.24	.24	.20
11	.22	.22	.22	.50	.30	.32	.41	.50	.12	.24	.21	.19
12	.18	19	.23	.42	.28	.30	.21	.24	.13	.23	.22	.21
13	.22	.24	.30	.25	.28	.28	.21	.20	.14	.23	.22	.17
14	.21	.18	.23	.22	.31	.26	.47	.20	.12	.23	.21	.17
15	.25	.21	.20	.22	.27	.26	.41	.18	.16	.22	.21	.19
16	.29	.55	.20	.17	.27	14	.64	.17	.13	.22	1.4	.17
17	.22	.24	.21	.17	.27	1.9	.59	.17	.15	.21	115	.15
18	.20	.27	.24	.20	.27	.18	.68	.17	.13	.21	2.3	.16
19	.20	.24	.21	.18	.26	.20	.32	.18	.16	.22	.36	.15
20	.19	.23	.21	.36	.27	.18	.24	.19	.17	.20	.22	.16
21	.18	.21	.21	1.7	.28	.20	.22	.18	.15	.25	.21	.18
22	.18	.46	.21	.30	.25	.18	.22	.18	.17	.20	.21	.18
23	.18	.20	.20	.28	2.8	.26	.26	.21	.14	.23	.18	.20
24	.22	.20	.21	.28	20	.26	.22	3.6	.18	.19	.18	.15
25	.20	.21	.20	.36	.91	23	.22	.21	.15	.18	.28	.18
26	.18	.20	.20	.95	.28	.88	.22	.19	.13	.18	.24	.17
27	.18	.17	.20	.28	.29	.21	.22	.22	.16	.17	.19	.22
28	.22	.22	.21	.28	.27	.20	.22	.20	.15	.24	.62	.17
29	.24	.20	.21	.30	---	.18	.22	.20	.20	.25	.55	.16
30	.18	.25	28	.30	---	.20	.22	.22	.20	.31	.19	.16
31	.21	---	3.2	.30	---	.21	---	.17	---	.27	.18	---
TOTAL	6.37	29.72	37.49	127.04	30.68	46.26	8.64	139.29	4.57	6.68	125.57	5.54
MEAN	.21	.99	1.21	4.10	1.10	1.49	.29	4.49	.15	.22	4.05	.18
MAX	.29	.19	.28	.46	.20	.23	.68	.80	.20	.31	.115	.33
MIN	.17	.17	.19	.17	.25	.18	.18	.17	.12	.17	.17	.15
AC-FT	13	59	74	252	61	92	17	276	9.1	13	249	11

CAL YR 1976 TOTAL 559.06 MEAN 1.53 MAX 109 MIN .08 AC-FT 1110  
WTR YR 1977 TOTAL 567.85 MEAN 1.56 MAX 115 MIN .12 AC-FT 1130

## 11089500 FULLERTON CREEK BELOW FULLERTON DAM, NEAR BREA, CA

LOCATION.--Lat 33°53'45", long 117°53'07", in NE¼NW¼SW¼ sec.24, T.3 S., R.10 W., Orange County, on left bank of outlet channel of Fullerton Dam, 1.6 mi (2.6 km) southeast of Brea.

DRAINAGE AREA.--4.94 mi<sup>2</sup> (12.79 km<sup>2</sup>).

PERIOD OF RECORD.--October 1941 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 250 ft (76 m), from topographic map. V-notch sharp-crested weir used Oct. 25, 1946, to Feb. 2, 1956. Prior to Dec. 3, 1971, at datum 3.00 ft (0.914 m) higher.

REMARKS.--Records fair. Flow regulated by Fullerton flood-control reservoir, capacity, 706 acre-ft (870,000 m<sup>3</sup>). Small tributary formerly entering below station diverted into reservoir since December 1954. See schematic diagram of San Gabriel and Los Angeles River basins.

AVERAGE DISCHARGE.--13 years (water years 1942-54), 0.19 ft<sup>3</sup>/s (0.005 m<sup>3</sup>/s), 135 acre-ft/yr (166,000 m<sup>3</sup>/yr); 23 years (water years 1955-77), 0.55 ft<sup>3</sup>/s (0.016 m<sup>3</sup>/s), 398 acre-ft/yr (491,000 m<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 313 ft<sup>3</sup>/s (8.86 m<sup>3</sup>/s) Jan. 25, 1969, gage height, 7.32 ft (2.231 m), present datum; no flow at times in each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 162 ft<sup>3</sup>/s (4.59 m<sup>3</sup>/s) Aug. 17, gage height, 6.13 ft (1.868 m); no flow many days in November and December.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.01	.04	0	4.3	.42	.10	.10	.17	.12	.15	.12	.09
2	.01	.04	.01	2.5	.25	.09	.11	.13	.12	.15	.12	.09
3	.01	.04	0	25	.16	.08	.12	.12	.12	.12	.12	.12
4	.01	.03	0	.98	.14	.11	.09	.09	.14	.12	.12	.12
5	.02	.03	0	4.3	.12	.11	.09	.10	.15	.12	.12	.09
6	.02	.03	0	25	.12	.11	.14	.11	.14	.09	.12	.12
7	.02	.02	0	14	.12	.18	.11	.11	.15	.09	.09	.09
8	.01	.02	0	.39	.12	.14	.13	16	.16	.09	.09	.07
9	.01	.02	0	.18	.12	.13	.12	23	.14	.09	.10	.12
10	.01	.01	0	.17	.10	.12	.10	15	.10	.07	.11	.12
11	.01	.01	0	.17	.09	.13	.10	.16	.10	.09	.12	.12
12	.01	.01	.01	.12	.09	.08	.12	.17	.08	.15	.14	.15
13	.02	.01	.01	.14	.09	.09	.11	.27	.09	.19	.21	.15
14	.02	0	.01	.11	1.0	.10	.09	.20	.09	.15	.21	.12
15	.02	0	.01	.12	.16	.14	.12	.13	.09	.09	.18	.15
16	.02	0	0	.14	.19	5.1	.10	.13	.15	.12	.36	.15
17	.01	0	0	.09	.11	.28	.10	.12	.15	.12	48	.12
18	.02	.01	0	.10	.12	.19	.10	.12	.15	.12	1.7	.12
19	.02	.01	0	.17	.15	.11	.09	.12	.12	.15	.17	.12
20	.02	.01	0	.16	.10	.12	.09	.12	.12	.12	.09	.12
21	.02	.01	0	.94	.09	.11	.11	.12	.19	.15	.08	.09
22	.02	.01	0	.15	.11	.19	.17	.12	.24	.15	.07	.12
23	.03	.01	0	.12	2.2	.35	.10	.15	.19	.15	.08	.12
24	.04	.01	0	.14	6.7	.15	.09	2.0	.19	.15	.09	.15
25	.04	0	0	.12	.48	9.4	.10	.12	.12	.12	.05	.12
26	.04	0	0	.42	.14	.42	.10	.09	.12	.12	.13	.15
27	.03	0	0	.16	.10	.15	.09	.09	.15	.15	.13	.19
28	.04	0	0	.13	.09	.18	.09	.12	.15	.12	.11	.12
29	.04	0	4.2	.13	---	.12	.10	.12	.15	.12	.15	.12
30	.04	0	7.4	.13	---	.17	.11	.12	.15	.12	.15	.15
31	.04	---	5.0	.13	---	.11	---	.12	---	.12	.09	---
TOTAL	.68	.38	16.65	80.71	13.68	18.86	3.19	59.54	4.13	3.86	53.42	3.68
MEAN	.022	.013	.54	2.60	.49	.61	.11	1.92	.14	.12	1.72	.12
MAX	.04	.04	7.4	25	6.7	9.4	.17	23	.24	.19	.48	.19
MIN	.01	0	0	.09	.09	.08	.09	.09	.08	.07	.05	.07
AC-FT	1.3	.8	33	160	27	37	6.3	118	8.2	7.7	106	7.3
CAL YR 1976	TOTAL	214.64	MEAN	.59	MAX	20	MIN	0	AC-FT	426		
WTR YR 1977	TOTAL	258.78	MEAN	.71	MAX	48	MIN	0	AC-FT	513		

## SAN GABRIEL RIVER BASIN

11090200 FULLERTON CREEK AT RICHMAN AVENUE, AT FULLERTON, CA

LOCATION.--Lat 33°51'45", long 117°55'55", in NW¼SW¼SE¼ sec.33, T.3 S., R.10 W., Orange County, on right bank 125 ft (38 m) east of Richman Avenue, at Fullerton.

DRAINAGE AREA.--12.1 mi<sup>2</sup> (31.3 km<sup>2</sup>).

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

GAGE.--Water-stage recorder. Datum of gage is 126.4 ft (38.53 m) above mean sea level (levels by Orange County Environmental Management Agency).

REMARKS.--Flow regulated by Fullerton flood-control reservoir, capacity, 706 acre-ft (870,000 m<sup>3</sup>). No diversion above station. See schematic diagram of San Gabriel and Los Angeles River basins.

COOPERATION.--Records were published as furnished by Orange County Environmental Management Agency.

AVERAGE DISCHARGE.--18 years, 2.06 ft<sup>3</sup>/s (0.058 m<sup>3</sup>/s), 1,490 acre-ft/yr (1.84 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,100 ft<sup>3</sup>/s (31.2 m<sup>3</sup>/s) Jan. 25, 1969, gage height, 4.78 ft (1.457 m); no flow many days in each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 627 ft<sup>3</sup>/s (17.8 m<sup>3</sup>/s) Jan. 3, gage height, 3.63 ft (1.106 m); no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	8.9	.10	.10	.10	.10	.10	.20	.10	.10
2	0	0	.10	13	0	.10	.10	.10	.10	.10	.30	.10
3	0	.10	.10	94	0	.10	.10	.10	.10	.10	.20	.20
4	0	.10	.10	19	0	.10	.10	.10	.10	.10	.10	.20
5	0	.10	0	8.0	0	.10	.10	.10	.10	.10	.20	.20
6	0	.10	0	33	0	.10	.10	.10	.10	.10	.30	.20
7	0	0	0	8.0	0	.10	.10	.40	.10	.10	.30	.20
8	0	.10	0	.50	0	.10	.10	159	.10	.10	.30	.20
9	0	0	0	.50	.10	.10	.10	69	.10	.20	.30	.10
10	0	0	0	.50	.10	.10	.10	40	.10	.10	.20	.10
11	0	.20	.10	.50	.10	.20	.10	1.7	.10	.10	.30	.10
12	0	39	.10	.20	.10	.10	.10	.10	.10	.10	.40	.10
13	0	.50	.10	.40	.10	.10	.10	.10	.10	.10	.30	.20
14	0	.20	.10	.50	.40	.60	.10	.10	.10	.20	.50	.20
15	0	0	.10	.20	.10	.60	.10	.10	.10	.30	.50	.10
16	0	0	0	.20	.10	19	.10	.10	.10	.20	6.5	.20
17	0	0	0	.20	.10	.60	.10	.10	.10	.20	195	.20
18	0	0	0	.20	.10	.30	.10	.10	.10	.20	4.8	.10
19	0	0	0	.10	.10	.20	.10	.10	.10	.10	.50	.10
20	0	0	0	1.8	.10	.10	.10	.10	.10	.20	.10	.10
21	0	0	0	4.3	0	.20	.10	.10	.10	.20	.10	.10
22	0	0	0	.10	0	.30	.10	.10	.10	.20	.10	.10
23	0	0	0	.10	17	.50	.10	.10	.10	.30	.10	.10
24	0	0	0	.10	29	.70	.10	3.6	.10	.20	.10	.10
25	0	0	0	.30	6.6	47	.10	.10	.10	.50	.10	.10
26	0	0	0	2.6	.10	1.7	.10	.10	.10	.10	.10	.10
27	.10	0	0	.20	.10	.50	.10	.10	.10	.10	.20	.20
28	0	0	.10	.10	.10	.10	.10	.10	.10	.10	.20	.10
29	0	0	2.0	0	---	.10	.10	.10	.10	.20	.10	.10
30	0	.10	39	0	---	.10	.10	.10	.20	.20	.20	.10
31	0	---	11	0	---	.10	---	.10	---	.10	.10	---
TOTAL	.10	40.50	52.90	197.50	54.50	74.10	3.00	276.20	3.10	5.10	212.60	4.10
MEAN	.003	1.35	1.71	6.37	1.95	2.39	.10	8.91	.10	.16	6.86	.14
MAX	.10	39	39	94	29	47	.10	159	.20	.50	195	.20
MIN	0	0	0	0	0	.10	.10	.10	.10	.10	.10	.10
AC-FT	.2	80	105	392	108	147	6.0	548	6.1	10	422	8.1
CAL YR 1976	TOTAL	918.90	MEAN	2.51	MAX	132	MIN	0	AC-FT	1820		
WTR YR 1977	TOTAL	923.70	MEAN	2.53	MAX	195	MIN	0	AC-FT	1830		

## 11090700 COYOTE CREEK AT LOS ALAMITOS, CA

LOCATION.--Lat 33°48'38", long 118°04'28", in NW¼NE¼SW¼ sec.19, T.4 S., R.11 W., Orange County, on right bank about 250 ft (76 m) downstream from Spring Street, 0.5 mi (0.8 km) northwest of Los Alamitos.

DRAINAGE AREA.--150 mi<sup>2</sup> (388 km<sup>2</sup>).

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

REVISED RECORDS.--WDR CA-74-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 7.37 ft (2.246 m) above mean sea level (levels by Los Angeles County Flood Control District).

REMARKS.--Records poor. Flows up to 100 ft<sup>3</sup>/s (2.83 m<sup>3</sup>/s) can be diverted from present Carbon Creek channel to Coyote Creek through the original Carbon Creek channel. Flow partially regulated by Carbon Canyon, Brea and Fullerton flood-control reservoirs, combined capacity, 11,840 acre-ft (14.6 hm<sup>3</sup>). AVERAGE DISCHARGE represents flow to ocean during period of record, regardless of upstream development. See schematic diagram of San Gabriel and Los Angeles River basins.

COOPERATION.--Records were furnished by Los Angeles County Flood Control District.

AVERAGE DISCHARGE.--14 years, 35.1 ft<sup>3</sup>/s (0.994 m<sup>3</sup>/s), 25,430 acre-ft/yr (31.4 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,300 ft<sup>3</sup>/s (405 m<sup>3</sup>/s) Dec. 4, 1974, gage height, 7.25 ft (2.210 m), from outside gage; no flow Jan. 25, Feb. 15-17, 1964.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.0	3.7	3.7	15	3.1	3.7	2.8	2.3	4.0	4.0	3.4	2.1
2	4.0	5.2	4.3	45	3.4	4.0	2.8	3.1	2.8	3.7	4.0	2.3
3	4.0	5.5	4.9	882	3.4	3.4	2.3	2.8	2.5	4.3	3.4	2.3
4	4.3	5.2	5.5	12	3.7	3.4	2.3	2.1	3.4	4.3	3.1	2.5
5	6.1	4.0	6.8	193	3.4	3.1	2.5	2.5	2.8	4.0	2.8	2.5
6	4.6	4.3	4.6	890	3.4	4.0	2.3	2.5	2.8	2.8	2.8	3.1
7	4.9	4.6	4.0	769	3.7	4.6	2.5	2.8	2.8	3.7	2.5	2.8
8	4.6	4.3	6.8	40	3.7	3.1	2.5	4250	3.1	3.7	2.5	3.1
9	4.9	4.9	4.6	13	4.0	3.1	2.1	458	3.7	4.0	2.8	3.7
10	5.5	6.1	4.3	8.7	3.7	4.9	1.9	42	3.7	4.3	3.7	3.1
11	4.3	7.4	4.0	5.2	4.0	2.3	2.1	4.9	4.6	4.6	3.4	4.0
12	4.6	342	4.3	7.4	4.0	2.3	2.1	4.6	5.2	3.1	3.4	3.4
13	4.3	3.4	3.4	7.4	3.7	2.8	1.9	3.1	4.6	3.4	3.4	5.2
14	4.0	2.5	4.0	7.4	3.1	2.5	1.9	2.5	5.5	3.7	3.7	4.0
15	4.0	2.5	5.5	5.5	4.6	2.3	1.9	2.5	7.8	4.3	3.4	2.8
16	3.7	2.8	5.2	5.2	4.6	448	1.9	2.8	3.4	3.7	20	3.4
17	4.3	2.8	5.2	4.9	4.3	48	2.8	2.5	3.7	3.7	1770	3.4
18	4.0	2.3	4.9	4.9	5.5	4.0	2.3	3.4	3.7	4.0	79	2.5
19	5.2	2.3	5.2	4.3	6.1	3.1	2.1	4.0	3.7	4.0	4.6	2.5
20	4.9	2.3	5.2	28	7.4	3.1	1.7	6.1	3.4	3.7	3.7	2.3
21	4.9	2.5	4.9	84	9.4	2.3	1.7	4.0	3.7	4.3	3.1	2.3
22	4.6	3.1	5.2	4.9	10	1.9	1.7	4.3	3.7	4.3	2.5	2.5
23	4.6	3.1	7.4	4.9	102	1.9	2.5	13	4.6	4.3	2.8	3.1
24	4.0	4.3	6.8	4.9	419	2.5	2.5	75	4.3	3.4	2.3	3.1
25	4.0	4.0	8.7	6.1	24	478	2.5	4.6	4.3	3.7	1.9	3.4
26	3.4	4.3	8.7	45	11	20	1.9	3.1	4.3	4.0	2.3	3.4
27	3.4	3.7	6.8	20	6.8	3.7	2.1	4.6	5.2	3.7	2.3	2.8
28	3.4	3.4	6.8	6.8	5.2	3.4	2.5	7.4	4.0	3.1	2.8	2.5
29	4.3	3.7	5.5	4.0	---	2.8	2.3	3.4	4.6	3.1	2.5	3.1
30	3.4	3.7	595	4.0	---	2.8	2.5	4.0	4.6	2.5	2.3	4.0
31	4.6	---	92	4.0	---	2.5	---	3.7	---	3.1	2.1	---
TOTAL	134.8	453.9	844.2	3136.5	670.2	1077.5	66.9	4931.6	120.5	116.5	1952.5	91.2
MEAN	4.35	15.1	27.2	101	23.9	34.8	2.23	159	4.02	3.76	63.0	3.04
MAX	6.1	342	595	890	419	478	2.8	4250	7.8	4.6	1770	5.2
MIN	3.4	2.3	3.4	4.0	3.1	1.9	1.7	2.1	2.5	2.5	1.9	2.1
AC-FT	267	900	1670	6220	1330	2140	133	9780	239	231	3870	181

CAL YR 1976 TOTAL 9648.9 MEAN 26.4 MAX 1500 MIN 2.3 AC-FT 19140  
WTR YR 1977 TOTAL 13596.3 MEAN 37.3 MAX 4250 MIN 1.7 AC-FT 26970

## LOS ANGELES RIVER BASIN

11092450 LOS ANGELES RIVER AT SEPULVEDA DAM, CA

LOCATION.--Lat 34°09'42", long 118°27'57", in Ex Mission de San Fernando Grant, Los Angeles County, on right bank of outlet channel of Sepulveda Dam, 200 ft (61 m) upstream from Sepulveda Boulevard in city of Los Angeles, and 1.8 mi (2.9 km) southwest of Van Nuys.

DRAINAGE AREA.--158 mi<sup>2</sup> (409 km<sup>2</sup>).

PERIOD OF RECORD.--January 1929 to February 1938, May 1938 to current year. See WSP 1315-B, 1735 for history of records prior to September 1950.

GAGE.--Water-stage recorder. Datum of gage is 652.7 ft (198.94 m) above mean sea level. See WSP 1735 for history of changes prior to Aug. 29, 1953.

REMARKS.--Records fair. Flow regulated since December 1941 by Sepulveda flood-control reservoir, capacity, 17,400 acre-ft (21.5 hm<sup>3</sup>). Some diversion above station. At times, city of Los Angeles discharges imported Owens River water into Los Angeles River from upstream distributing reservoirs. During current year, no imported water was reported. See schematic diagram of San Gabriel and Los Angeles River basins.

COOPERATION.--Records of released water from reservoirs were furnished by city of Los Angeles.

AVERAGE DISCHARGE.--47 years (water years 1930-37, 1939-77), 30.9 ft<sup>3</sup>/s (0.875 m<sup>3</sup>/s), 22,390 acre-ft/yr (27.6 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,800 ft<sup>3</sup>/s (391 m<sup>3</sup>/s) Jan. 25, 1969, gage height, 11.42 ft (3.481 m); no flow Sept. 19, 20, 1930.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 2, 1938, estimated to be 12,000 ft<sup>3</sup>/s (340 m<sup>3</sup>/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 9,510 ft<sup>3</sup>/s (269 m<sup>3</sup>/s) May 8, gage height, 8.85 ft (2.697 m); minimum daily, 0.94 ft<sup>3</sup>/s (0.027 m<sup>3</sup>/s) May 16, 17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.1	5.5	3.8	7.4	4.3	3.8	4.2	2.7	3.4	5.1	3.2	2.7
2	3.1	5.5	3.4	382	4.2	3.1	4.6	2.7	3.0	8.6	3.3	2.8
3	3.4	6.0	3.8	1250	4.2	3.1	4.2	2.4	2.7	3.8	3.2	3.4
4	3.8	5.5	4.6	27	4.2	3.4	4.6	1.9	2.4	5.5	2.8	2.3
5	3.8	6.5	4.6	289	4.6	3.8	4.2	1.4	3.1	4.6	3.4	2.2
6	4.2	6.0	4.2	1260	5.5	4.2	4.2	1.1	3.8	4.6	3.8	2.3
7	3.8	6.0	4.6	873	5.3	4.2	3.8	77	3.8	3.8	3.1	2.3
8	4.2	6.0	6.0	36	4.4	4.2	3.8	2110	4.2	4.6	2.7	3.0
9	6.4	6.0	5.5	15	4.2	4.6	4.2	880	5.1	4.6	2.4	2.1
10	7.4	5.5	4.2	6.3	5.1	4.2	4.2	20	5.1	4.6	2.4	1.9
11	6.4	33	4.2	4.3	4.9	4.6	4.2	5.0	4.0	4.2	2.7	2.5
12	4.6	308	5.4	3.4	4.9	4.6	4.2	10	3.4	4.2	2.4	3.0
13	4.2	4.2	6.2	3.4	5.7	6.5	4.2	1.9	5.0	4.2	2.4	2.5
14	5.0	2.7	5.0	3.4	5.0	6.0	4.2	1.4	5.8	3.4	2.4	2.6
15	5.0	2.4	4.2	3.4	4.8	6.0	4.2	1.4	6.2	3.4	3.1	1.8
16	5.4	1.9	4.2	3.9	4.6	499	4.6	.94	4.8	3.1	3.4	1.9
17	5.9	2.1	4.2	3.2	4.6	19	3.8	.94	6.3	3.4	1910	2.0
18	5.4	3.1	5.0	2.7	4.6	6.0	3.8	1.1	5.1	2.7	65	1.5
19	5.9	3.8	5.0	2.8	4.6	4.6	3.8	1.4	5.2	2.9	4.6	1.4
20	5.1	3.4	4.6	4.0	4.6	5.1	3.4	1.9	5.3	2.5	3.1	1.8
21	60	3.4	4.2	6.1	4.6	5.1	3.1	1.6	5.9	2.5	2.1	1.7
22	51	3.8	4.6	4.1	4.6	5.5	3.4	1.6	5.8	3.0	2.1	1.6
23	21	3.8	5.0	4.3	48	5.5	3.8	1.6	6.1	2.9	2.4	1.5
24	7.3	3.4	4.6	4.6	12	19	3.8	20	6.2	2.7	2.4	1.3
25	5.5	3.4	4.6	4.4	5.3	934	3.4	2.7	5.8	2.4	3.1	1.5
26	5.6	3.8	4.6	4.7	3.8	13	3.8	2.1	5.0	2.9	2.4	2.4
27	4.7	2.7	5.0	5.3	3.8	5.1	3.8	1.9	5.0	3.5	2.4	1.9
28	5.4	1.9	5.4	16	3.8	4.6	3.8	1.6	4.7	4.3	2.4	1.6
29	6.3	1.9	5.4	5.6	---	3.8	3.1	1.4	5.4	3.7	2.3	1.9
30	5.7	3.4	434	4.7	---	4.2	3.8	1.1	8.0	3.1	2.7	2.1
31	7.0	---	29	4.2	---	4.2	---	1.4	---	3.3	3.5	---
TOTAL	275.6	454.6	599.1	4244.2	180.2	1604.0	118.2	3162.18	145.6	118.1	2057.2	63.5
MEAN	8.89	15.2	19.3	137	6.44	51.7	3.94	102	4.85	3.81	66.4	2.12
MAX	60	308	434	1260	48	934	4.6	2110	8.0	8.6	1910	3.4
MIN	3.1	1.9	3.4	2.7	3.8	3.1	3.1	.94	2.4	2.4	2.1	1.3
AC-FT	547	902	1190	8420	357	3180	234	6270	289	234	4080	126

CAL YR 1976 TOTAL 8456.00 MEAN 23.1 MAX 1500 MIN 1.3 AC-FT 16770  
WTR YR 1977 TOTAL 13022.48 MEAN 35.7 MAX 2110 MIN .94 AC-FT 25830

## 11093000 PACOIMA CREEK NEAR SAN FERNANDO, CA

LOCATION.--Lat 34°20'07", long 118°23'50", in SE¼NE¼ sec.24, T.3 N., R.15 W., Los Angeles County, on right bank 500 ft (152 m) downstream from Pacoima Dam, 0.3 mi (0.5 km) upstream from mouth of canyon, and 4 mi (6 km) northeast of San Fernando.

DRAINAGE AREA.--28.3 mi<sup>2</sup> (73.3 km<sup>2</sup>).

PERIOD OF RECORD.--March to July 1916 (fragmentary), December 1916 to current year.

GAGE.--Water-stage recorder. Flume or weir control since June 1937. Altitude of gage is 1,650 ft (503 m), from topographic map. See WSP 1735 for history of changes prior to Feb. 1, 1935.

REMARKS.--Records poor. Flow regulated by Pacoima flood-control reservoir since February 1929, capacity, 3,841 acre-ft (4.74 hm<sup>3</sup>). Flow passing over Pacoima Dam spillway enters creek below station. No diversion above station. See schematic diagram of San Gabriel and Los Angeles River basins.

COOPERATION.--Records were furnished by Los Angeles County Flood Control District.

AVERAGE DISCHARGE.--60 years (water years 1918-77), 9.10 ft<sup>3</sup>/s (0.258 m<sup>3</sup>/s), 6,590 acre-ft/yr (8.13 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,440 ft<sup>3</sup>/s (69.1 m<sup>3</sup>/s) Mar. 3, 1938; no flow at times in most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 460 ft<sup>3</sup>/s (13.0 m<sup>3</sup>/s) Apr. 4, gage height, 3.65 ft (1.113 m); minimum daily, no flow in February, March, July and August.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.70	.90	.70	.10			.30	.20	.10			.10
2	.70	.90	.70	.10			.30	.20	.10			.10
3	.70	.90	.70	.10			.30	.20	.90			.10
4	.70	.90	.70	.10			26	.20	2.1			.10
5	.60	.90	.70	5.4			.30	.20	2.1			.10
6	.50	.90	.70	.30			.30	.20	2.1			.10
7	.50	.90	.70	.30			.30	.20	2.1			.10
8	.50	.90	.70	.30			.30	.20	2.1			.10
9	.50	.90	.70	.30			.20	.20	2.1			.10
10	.50	.90	.70	.30			.20	.20	1.5			.10
11	.50	.90	.70	.30			8.4	.20	1.1			.10
12	.50	.90	.70	.30			15	.20	1.1			.10
13	.50	.90	.70	.30			15	.20	1.1			.10
14	.50	.90	.70	.30			14	.20	.60			.10
15	.50	.90	.30	.30			8.3	.10	.30			.10
16	.50	.90	.30	.30			.30	.10	.30			.30
17	.50	.90	.30	.30			.30	.10	.30			.30
18	.50	.90	.30	.30			.30	.10	.30			.30
19	.60	.90	.30	.30			.30	2.7	.30			.30
20	.60	.90	.30	.30			.30	4.6	.30			.30
21	.70	.90	.30	.30			.30	4.4	.30			.90
22	3.0	.90	.30	.30			.30	4.2	.30			.30
23	.60	.90	.30	.30			.30	4.0	.30			.30
24	.60	.90	.30	.30			.30	3.8	.30			.30
25	.60	.90	.30	.30			.30	3.6	.30			.30
26	7.6	.90	.30	.20			.30	5.7	.20			.30
27	13	.90	.30	.20			.30	5.0	.20			.30
28	4.0	.90	.30	.20			.30	5.0	.20			.20
29	4.0	.90	.30	.20	---		.30	5.0	.20			.10
30	4.0	.90	.30	.20	---		.30	5.5	.10			.10
31	4.0	---	.20	.20	---		---	1.9	---			---
TOTAL	53.20	27.00	14.80	13.00	0	0	93.70	58.60	23.30	0	0	6.10
MEAN	1.72	.90	.48	.42	0	0	3.12	1.89	.78	0	0	.20
MAX	13	.90	.70	5.4	0	0	26	5.7	2.1	0	0	.90
MIN	.50	.90	.20	.10	0	0	.20	.10	.10	0	0	.10
AC-FT	106	54	29	26	0	0	186	116	46	0	0	12
CAL YR 1976	TOTAL 859.20	MEAN 2.35	MAX 64	MIN .10	AC-FT 1700							
WTR YR 1977	TOTAL 289.70	MEAN .79	MAX 26	MIN 0	AC-FT 575							

## 11095500 BIG TUJUNGA CREEK NEAR SUNLAND, CA

LOCATION.--Lat 34°18'02", long 118°16'04", in SW¼NW¼SW¼ sec.32, T.3 N., R.13 W., Los Angeles County, on left bank 1,000 ft (305 m) upstream from Gold Canyon, 2 mi (3 km) upstream from mouth of canyon, and 4 mi (6 km) north-east of Sunland.

DRAINAGE AREA.--106 mi<sup>2</sup> (275 km<sup>2</sup>).

PERIOD OF RECORD.--October 1916 to current year. Prior to October 1974, published as Tujunga Creek near Sunland.

GAGE.--Water-stage recorder. Datum of gage is 1,571.80 ft (479.085 m) above mean sea level (levels by Los Angeles County Flood Control District). Prior to Oct. 1, 1932, at site 1,000 ft (305 m) upstream at different datum.

REMARKS.--Records poor. Flow regulated since July 1931 by Big Tujunga flood-control reservoir, capacity, 3,819 acre-ft (4.71 hm<sup>3</sup>). Several small diversions above station for irrigation. See schematic diagram of San Gabriel and Los Angeles River basins.

COOPERATION.--Records were furnished by Los Angeles County Flood Control District.

AVERAGE DISCHARGE.--60 years (water years 1918-77), 28.0 ft<sup>3</sup>/s (0.793 m<sup>3</sup>/s), 20,290 acre-ft/yr (25.0 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 50,000 ft<sup>3</sup>/s (1,420 m<sup>3</sup>/s), estimated, Mar. 2, 1938; minimum, 0.10 ft<sup>3</sup>/s (0.003 m<sup>3</sup>/s) at times in some years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.5	6.0	2.6	4.1	12	3.7	9.9	4.5	5.5	2.1	.50	2.7
2	7.3	6.1	2.5	9.0	12	3.7	8.7	4.5	6.9	2.1	.40	2.7
3	7.1	6.1	2.5	4.9	9.3	3.4	7.0	4.9	6.9	1.6	.30	2.6
4	6.7	5.4	2.5	18	9.9	3.4	7.5	5.1	7.2	1.2	.80	2.5
5	6.4	5.9	2.5	21	9.6	3.3	7.3	5.2	7.3	1.2	1.0	2.5
6	6.4	6.5	2.4	29	9.0	3.4	6.9	5.2	7.2	1.4	1.0	2.4
7	6.3	5.6	2.3	55	9.9	3.4	6.4	6.1	8.1	1.6	1.2	2.4
8	6.3	5.3	2.2	37	9.9	4.0	8.1	57	8.7	1.8	1.2	2.4
9	6.2	4.8	2.1	26	9.6	3.6	9.6	106	7.8	2.0	1.6	2.4
10	6.1	5.2	2.1	20	9.6	4.0	12	202	9.0	2.1	1.8	2.4
11	5.9	5.0	2.0	16	8.7	4.5	18	176	9.0	2.2	1.6	2.4
12	5.8	5.7	2.0	15	7.5	4.9	17	150	9.0	2.3	1.8	2.4
13	5.8	5.5	2.1	14	6.9	5.1	12	119	9.6	2.4	1.8	2.4
14	5.7	5.3	2.1	13	6.6	5.8	4.8	98	10	2.3	1.8	2.4
15	5.8	5.2	2.1	12	6.0	6.3	4.8	46	11	2.3	1.6	2.4
16	5.8	4.0	2.0	11	5.2	7.4	4.8	29	11	2.3	3.3	2.5
17	5.9	3.6	2.1	10	4.6	7.2	4.6	21	10	2.2	7.1	2.5
18	6.0	3.6	2.2	9.9	4.3	8.1	4.6	21	12	2.1	3.0	2.3
19	6.0	3.5	2.2	11	4.6	7.3	4.5	20	12	2.1	2.9	2.2
20	6.1	3.5	2.2	9.4	5.1	6.7	4.3	18	11	2.1	2.7	2.1
21	6.0	3.5	2.0	6.7	5.4	5.7	4.3	18	2.0	2.1	2.6	2.3
22	6.9	3.4	1.9	7.5	4.6	6.1	4.8	18	2.3	2.0	2.5	3.0
23	7.7	3.3	1.8	12	4.9	6.4	4.8	22	2.3	2.0	2.4	3.0
24	5.9	3.3	1.7	13	4.9	7.0	4.8	22	1.8	2.0	2.3	2.9
25	5.3	3.2	1.8	12	4.2	13	4.8	15	1.8	1.8	2.5	2.8
26	5.5	3.0	1.9	13	4.3	12	4.8	8.1	1.8	1.8	2.1	2.8
27	5.2	3.1	1.8	12	3.4	13	4.8	6.9	1.8	1.8	2.1	2.8
28	5.7	3.0	1.8	12	3.6	12	4.6	7.5	1.6	1.8	2.0	2.6
29	5.9	2.8	1.8	12	---	12	4.5	7.5	2.0	1.6	1.4	2.7
30	5.5	2.7	5.8	12	---	13	4.5	6.9	2.0	1.6	1.6	2.4
31	5.9	---	7.7	12	---	13	---	5.8	---	1.6	1.6	---
TOTAL	190.6	133.1	74.7	513.6	195.6	212.4	209.5	1236.2	198.6	59.5	60.50	75.9
MEAN	6.15	4.44	2.41	16.6	6.99	6.85	6.98	39.9	6.62	1.92	1.95	2.53
MAX	7.7	6.5	7.7	55	12	13	18	202	12	2.4	7.1	3.0
MIN	5.2	2.7	1.7	4.1	3.4	3.3	4.3	4.5	1.6	1.2	.30	2.1
AC-FT	378	264	148	1020	388	421	416	2450	394	118	120	151

CAL YR 1976 TOTAL 3318.80 MEAN 9.07 MAX 151 MIN .90 AC-FT 6580  
WTR YR 1977 TOTAL 3160.20 MEAN 8.66 MAX 202 MIN .30 AC-FT 6270



## 11097000 BIG TUJUNGA CREEK BELOW HANSEN DAM, CA

LOCATION.--Lat 34°15'13", long 118°23'17", in Ex Mission San Fernando Grant, Los Angeles County, in city of Los Angeles, on left bank of outlet channel of Hansen Dam, 0.1 mi (0.2 km) upstream from Glen Oaks Boulevard, and 3 mi (5 km) southeast of San Fernando.

DRAINAGE AREA.--153 mi<sup>2</sup> (396 km<sup>2</sup>).

PERIOD OF RECORD.--May 1932 to February 1938, August 1940 to current year. Monthly discharge only for some periods, published in WSP 1315-B.

GAGE.--Water-stage recorder. Datum of gage is 943.32 ft (287.524 m) above mean sea level (Corps of Engineers bench mark). See WSP 1735 for history of changes prior to Oct. 1, 1953.

REMARKS.--Records poor. Flow regulated since July 1931 by Big Tujunga flood-control reservoir, capacity, 4,240 acre-ft (5.23 hm<sup>3</sup>) and since September 1940 by Hansen flood-control reservoir, capacity, 29,700 acre-ft (36.6 hm<sup>3</sup>). Several small diversions for domestic use and irrigation. Water reported herein is that which passed Hansen Dam. Los Angeles County Flood Control District diverts 0.3 mi (0.5 km) upstream from gage to spreading grounds. See schematic diagram of San Gabriel and Los Angeles River basins.

COOPERATION.--Records of diversion were furnished by Los Angeles County Flood Control District.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,700 ft<sup>3</sup>/s (331 m<sup>3</sup>/s) Feb. 25, 1969, gage height, 7.36 ft (2.243 m), from rating curve extended above 5,000 ft<sup>3</sup>/s (142 m<sup>3</sup>/s) on basis of gate openings at dam; no flow for all or parts of each year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge, 54,000 ft<sup>3</sup>/s (1,530 m<sup>3</sup>/s), estimated, Mar. 2, 1938.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 108 ft<sup>3</sup>/s (3.06 m<sup>3</sup>/s) May 11, gage height, 1.32 ft (0.402 m); no flow most of year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	0	0	0		0			0	0
2	0	0	0	0	0	0		0			0	0
3	0	0	0	.53	0	0		0			0	0
4	0	0	0	0	0	0		0			0	0
5	0	0	0	.17	0	0		0			0	0
6	0	0	0	0	0	0		0			0	2.1
7	0	0	0	.22	0	0		0			0	3.3
8	0	0	0	0	0	0		5.9			0	3.2
9	0	0	0	0	0	0		4.0			0	0
10	0	0	0	0	0	0		1.9			0	0
11	0	.10	0	0	0	0		2.0			0	0
12	0	1.2	0	0	0	0		0			0	0
13	0	.57	0	.36	0	0		0			0	0
14	0	.50	0	0	0	0		0			0	0
15	0	.32	0	0	0	0		0			0	0
16	0	0	0	0	0	0		0			0	0
17	0	0	0	0	0	0		0			2.5	0
18	0	0	0	0	0	0		.40			0	0
19	0	0	0	0	0	0		0			0	0
20	0	0	0	0	0	0		0			0	0
21	0	0	0	0	0	0		0			0	0
22	.36	0	0	0	0	0		0			0	0
23	1.0	0	0	0	.51	0		0			0	0
24	.50	0	0	0	0	0		0			0	0
25	.37	0	0	0	0	1.7		0			0	0
26	.13	0	0	0	0	1.1		0			0	0
27	0	0	0	0	0	.44		0			0	0
28	0	0	0	0	0	.14		0			0	0
29	0	0	0	0	---	.14		0			0	0
30	0	0	.08	0	---	0		0			0	0
31	0	---	.14	0	---	0	---	0	---		0	---
TOTAL	2.36	2.69	.22	1.28	.51	3.52	0	14.20	0	0	2.5	8.6
MEAN	.076	.090	.007	.041	.018	.11	0	.46	0	0	.081	.29
MAX	1.0	1.2	.14	.53	.51	1.7	0	5.9	0	0	2.5	3.3
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	4.7	5.3	.4	2.5	1.0	7.0	0	28	0	0	5.0	17
a	4.7	5.3	.4	1,180	1.0	7.0	0	1,950	0	0	5.0	17
CAL YR 1976	TOTAL 16.42	MEAN .045	MAX 1.9	MIN 0	AC-FT 33	AC-FT a 910						
WTR YR 1977	TOTAL 35.88	MEAN .098	MAX 5.9	MIN 0	AC-FT 71	AC-FT a 3170						

a Combined discharge, in acre-feet, of creek and diversion.

## LOS ANGELES RIVER BASIN

11097490 LOS ANGELES RIVER AT FELIZ BOULEVARD, AT LOS ANGELES, CA

LOCATION.--Lat 34°07'18", long 118°16'10", Los Angeles County, on bridge at Feliz Boulevard in Los Angeles.

PERIOD OF RECORD.--Chemical analyses: November 1973 to current year.

COOPERATION.--Records were furnished by California Department of Water Resources.

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	DIS- SOLVED OXYGEN (MG/L)	CHEM- ICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)	BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L)	DELAYED COLI- FORM (COL- ONIES PER 100 ML)	FECAL COLI- FORM (COL. PER 100 ML)	STREP- TOCOCCI (COL- ONIES PER 100 ML)
NOV										
04...	0600	1070	8.3	13.3	5.9	34	--	10100	1900	3300
11...	2400	132	7.0	15.0	--	170	--	--	--	--
DEC										
03...	0630	1110	7.7	8.9	6.8	--	7.0	2000	60	600
30...	1110	186	6.6	17.2	--	--	50	--	--	--
JAN										
04...	0450	805	7.7	7.2	10.4	2	6.0	7200	1900	8000
06...	0730	286	6.8	5.0	--	--	13	--	--	--
21...	0800	389	7.4	13.3	--	130	25	--	--	--
FEB										
02...	0500	1090	8.2	7.2	5.5	57	9.0	600	80	500
MAR										
03...	0600	1350	7.9	8.9	8.6	46	6.0	440	20	<100
25...	1130	157	7.6	13.9	--	61	11	--	--	--
APR										
01...	0720	1620	7.8	10.0	9.7	56	7.0	8800	200	3100
MAY										
02...	0600	1390	7.7	14.4	--	110	22	2000	200	500
08...	1400	80	6.8	--	--	71	12	--	--	--
JUN										
07...	0610	1220	8.2	20.0	4.8	52	11	12300	480	1200

DATE	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	ALKA- LINITY AS CACO3 (MG/L)
NOV										
04...	140	85	20	99	41	2.5	12	200	0	164
11...	--	--	--	--	--	--	--	--	--	--
DEC										
03...	120	71	24	100	43	2.6	12	180	0	148
30...	--	--	--	--	--	--	--	--	--	--
JAN										
04...	140	71	17	60	34	1.7	8.0	130	0	107
06...	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--
FEB										
02...	110	62	23	96	44	2.6	10	170	0	139
MAR										
03...	110	73	21	140	51	3.7	16	200	0	164
25...	--	--	--	--	--	--	--	--	--	--
APR										
01...	280	110	31	160	45	3.5	14	160	0	131
MAY										
02...	--	--	--	--	--	--	--	230	0	189
08...	--	--	--	--	--	--	--	--	--	--
JUN										
07...	--	--	--	--	--	--	--	250	0	205

11097490 LOS ANGELES RIVER AT FELIZ BOULEVARD, AT LOS ANGELES, CA--Continued

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	CARBON DIOXIDE (CO2) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	DIS- SOLVED SOLIDS (TONS PER AC-FT)	DIS- SOLVED NITRATE (N) (MG/L)	DIS- SOLVED NITRATE (NO3) (MG/L)	DIS- SOLVED AMMONIA NITRO- GEN (N) (MG/L)	DIS- SOLVED AMMONIA (NH4) (MG/L)
NOV									
04...	1.6	190	110	--	--	12	54	2.2	2.8
11...	--	--	--	--	--	--	--	--	--
DEC									
03...	5.7	180	120	--	--	12	52	7.6	9.8
30...	--	--	--	--	--	--	--	--	--
JAN									
04...	4.2	140	96	--	--	2.3	10	2.7	3.5
06...	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--
FEB									
02...	1.7	180	110	--	--	7.9	35	7.8	10
MAR									
03...	4.0	230	160	--	--	9.0	40	16	21
25...	--	--	--	--	--	--	--	--	--
APR									
01...	4.1	400	160	--	--	17	75	2.7	3.5
MAY									
02...	7.3	290	160	865	1.18	15	67	.00	.00
08...	--	--	--	--	--	--	--	--	--
JUN									
07...	2.5	240	110	787	1.07	10	46	2.4	3.1

## LOS ANGELES RIVER BASIN

11097500 LOS ANGELES RIVER AT LOS ANGELES, CA

LOCATION.--Lat 34°04'52", long 118°13'36", landline location not available, Los Angeles County, on right bank near Figueroa Street, Los Angeles, and 800 ft (244 m) upstream from Arroyo Seco.

DRAINAGE AREA.--514 mi<sup>2</sup> (1,331 km<sup>2</sup>).

PERIOD OF RECORD.--October 1929 to current year.

GAGE.--Water-stage recorder. Datum of gage is 292.58 ft (89.178 m) above mean sea level (levels by Los Angeles County Flood Control District). See WSP 1315-B for history of changes prior to Dec. 8, 1939.

REMARKS.--Records fair. Flow regulated since September 1940 by Hansen flood-control reservoir and since December 1941 by Sepulveda flood-control reservoir, combined capacity, 49,400 acre-ft (60.9 hm<sup>3</sup>) and several small flood-control reservoirs. At times city of Los Angeles discharges imported Owens River water into Los Angeles River from upstream distributing reservoirs. Excess treated sewage effluent from Los Angeles Bureau of Sanitation is released to channel about 8 mi (13 km) upstream. Many diversions above station for domestic use and irrigation. See schematic diagram of San Gabriel and Los Angeles River basins.

COOPERATION.--Records furnished by Los Angeles County Flood Control District.

AVERAGE DISCHARGE.--48 years, 74.1 ft<sup>3</sup>/s (2.099 m<sup>3</sup>/s), 53,690 acre-ft/yr (66.2 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 67,000 ft<sup>3</sup>/s (1,900 m<sup>3</sup>/s) Mar. 2, 1938; no flow at times in some years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 23,300 ft<sup>3</sup>/s (660 m<sup>3</sup>/s) Jan. 3, gage height, 8.10 ft (2.469 m); minimum daily, 1.6 ft<sup>3</sup>/s (0.045 m<sup>3</sup>/s) Sept. 7, 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.7	13	17	39	13	18	9.8	8.2	5.8	14	18	2.5
2	6.7	14	11	527	11	16	7.7	9.8	6.2	16	16	2.5
3	7.2	21	11	3550	12	18	7.2	6.2	5.8	19	12	2.2
4	9.2	11	10	65	11	18	7.2	5.4	5.8	20	14	1.9
5	9.2	9.8	12	618	14	18	8.2	5.8	6.2	21	18	1.9
6	8.7	10	11	2180	16	17	7.7	6.2	8.7	19	18	1.9
7	8.2	12	12	2010	12	19	8.2	128	8.7	17	22	1.6
8	7.2	12	19	84	11	19	8.7	4710	8.2	22	24	1.6
9	8.2	12	12	41	10	22	8.2	2900	8.2	25	23	1.9
10	9.8	13	12	29	10	20	8.2	135	12	21	14	3.1
11	10	43	12	19	10	22	8.2	26	14	22	13	3.4
12	8.7	1340	12	21	10	22	10	49	12	21	12	3.8
13	9.2	36	15	14	11	21	10	19	16	22	8.2	5.4
14	8.7	16	11	12	13	21	10	12	14	18	6.7	5.4
15	10	19	10	14	12	21	9.2	7.2	14	14	5.4	6.2
16	8.7	8.7	11	12	10	1120	10	6.7	20	12	7.0	5.4
17	8.2	11	11	11	12	194	8.2	7.2	17	11	4490	5.8
18	10	9.2	11	11	12	29	7.7	6.2	16	11	211	5.8
19	12	10	12	14	9.8	15	5.8	5.8	13	14	22	6.2
20	11	7.7	15	19	8.2	10	5.8	5.4	16	15	8.7	6.7
21	18	10	13	111	7.2	10	7.2	5.4	18	12	7.2	7.2
22	454	23	11	20	7.2	9.2	5.8	5.0	18	12	6.2	6.7
23	907	12	12	12	105	8.2	5.4	13	18	9.8	5.4	8.2
24	23	10	9.8	13	72	31	5.0	103	16	9.8	5.0	7.7
25	16	10	9.8	12	34	1990	3.4	16	14	12	5.0	8.2
26	12	11	8.7	12	21	54	4.6	10	13	14	5.4	7.2
27	8.2	10	10	12	18	14	5.4	8.7	12	17	5.4	12
28	20	8.2	12	12	18	14	5.8	6.2	14	22	5.0	8.2
29	20	13	14	25	---	9.2	5.0	5.4	13	24	5.0	12
30	16	12	942	17	---	7.7	4.2	5.4	14	21	5.4	7.2
31	9.2	---	141	18	---	7.7	---	5.0	---	18	4.6	---
TOTAL	1683.0	1747.6	1430.3	9554	510.4	3815.0	217.8	8242.2	377.6	525.6	5022.6	159.8
MEAN	54.3	58.3	46.1	308	18.2	123	7.26	266	12.6	17.0	162	5.33
MAX	907	1340	942	3550	105	1990	10	4710	20	25	4490	12
MIN	6.7	7.7	8.7	11	7.2	7.7	3.4	5.0	5.8	9.8	4.6	1.6
AC-FT	3340	3470	2840	18950	1010	7570	432	16350	749	1040	9960	317
CAL YR 1976	TOTAL	23461.7	MEAN 64.1	MAX 3230	MIN 2.7	AC-FT 46540						
WTR YR 1977	TOTAL	33285.9	MEAN 91.2	MAX 4710	MIN 1.6	AC-FT 66020						

## 11098000 ARROYO SECO NEAR PASADENA, CA

LOCATION.--Lat 34°13'20", long 118°10'36", in NW¼NW¼NE¼ sec.31, T.2 N., R.12 W., Los Angeles County, on right bank, 0.7 mi (1.1 km) east of Angeles Crest Highway, 1.5 mi (2.4 km) upstream from Millard Canyon, and 5.5 mi (8.8 km) northwest of Pasadena.

DRAINAGE AREA.--16.0 mi<sup>2</sup> (41.4 km<sup>2</sup>).

PERIOD OF RECORD.--December 1910 to current year.

GAGE.--Water-stage recorder. Broad-crested weir since November 1938. Datum of gage is 1,397.88 ft (426.074 m) above mean sea level. Prior to Oct. 1, 1916, nonrecording gage at different datum. Oct. 1, 1916, to Oct. 19, 1945, water-stage recorder at datum 4.00 ft (1.219 m) lower.

REMARKS.--Records fair below 35 ft<sup>3</sup>/s (0.99 m<sup>3</sup>/s) and poor above. Minor regulation by debris dam 1.5 mi (2.4 km) upstream. No diversion above station. See schematic diagram of San Gabriel and Los Angeles River basins.

AVERAGE DISCHARGE.--63 years (water years 1914-15, 1917-77), 9.13 ft<sup>3</sup>/s (0.259 m<sup>3</sup>/s), 6,610 acre-ft/yr (8.15 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,620 ft<sup>3</sup>/s (244 m<sup>3</sup>/s) Mar. 2, 1938, gage height, 9.42 ft (2.871 m), present datum, on basis of slope-area measurement of maximum flow; no flow at times in some years.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 150 ft<sup>3</sup>/s (4.25 m<sup>3</sup>/s) and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)		Gage height (ft) (m)	
Jan. 3	0215	*565	16.0	3.59	1.094
May 9	0715	230	6.51	2.88	0.878

Minimum daily discharge, 0.14 ft<sup>3</sup>/s (0.004 m<sup>3</sup>/s) Sept. 5, 6, and 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.3	1.1	1.1	1.8	3.6	1.4	1.8	1.0	2.4	.64	.34	.34
2	1.3	1.0	1.1	2.4	3.4	1.4	1.8	.99	2.3	.70	.31	.38
3	1.2	1.0	1.1	86	3.3	1.4	1.7	1.0	2.3	.62	.30	.22
4	1.1	.94	1.1	5.5	3.1	1.4	1.5	1.1	2.2	.71	.30	.17
5	1.0	.95	1.2	7.0	3.0	1.2	1.4	1.2	2.2	.74	.30	.14
6	.94	.95	1.1	16	2.8	1.1	1.1	1.3	2.6	.64	.30	.14
7	.86	.96	1.1	38	2.6	1.1	1.4	1.3	2.9	.60	.28	.15
8	.77	.95	1.1	13	2.5	1.1	2.1	.49	2.8	.56	.21	.14
9	.73	.99	1.1	7.9	2.5	1.1	1.7	114	3.0	.55	.28	.16
10	.67	1.1	1.1	6.4	2.4	1.3	1.7	27	2.8	.53	.27	.20
11	.66	1.2	.98	5.7	2.3	1.4	1.6	11	2.3	.59	.25	.24
12	.68	5.6	1.0	5.4	2.3	1.4	1.5	8.7	1.7	.54	.22	.28
13	.61	2.7	1.0	5.3	2.1	1.6	1.3	7.2	1.9	.54	.18	.30
14	.56	2.1	1.0	5.1	2.1	1.3	1.3	6.8	1.7	.51	.17	.30
15	.68	1.8	1.0	5.0	2.1	2.2	1.3	6.3	1.4	.48	.15	.33
16	.92	1.4	.94	4.6	1.9	5.0	1.3	6.1	1.3	.45	.24	.30
17	.91	1.2	.94	4.1	1.9	3.8	1.3	5.3	1.3	.40	1.2	.28
18	1.0	1.2	.98	3.8	1.8	2.5	1.5	4.8	1.2	.40	.95	.25
19	1.1	1.3	1.0	3.6	1.8	2.2	1.3	4.4	1.2	.44	.74	.17
20	1.1	1.3	1.0	3.5	1.8	2.2	1.1	3.9	1.4	.44	.60	.22
21	1.3	1.2	1.0	4.9	1.6	1.7	1.0	3.7	1.1	.40	.45	.17
22	11	1.0	1.1	4.2	1.5	1.5	.98	3.8	1.1	.36	.25	.17
23	4.5	1.0	1.1	4.0	1.9	1.6	.88	4.3	1.1	.38	.26	.19
24	2.8	.98	1.2	3.7	2.0	2.1	.78	4.9	.98	.36	.26	.15
25	2.2	1.0	1.2	3.5	1.7	5.8	.90	4.2	.81	.32	.26	.15
26	1.7	1.1	1.1	3.4	1.6	3.2	.95	3.8	.74	.30	.31	.23
27	1.4	1.1	1.1	3.3	1.6	2.3	1.1	3.6	.74	.30	.32	.23
28	1.3	1.2	1.1	3.2	1.5	2.0	1.1	3.3	.71	.30	.29	.19
29	1.3	1.1	1.1	3.1	---	1.8	1.1	2.8	.70	.30	.26	.21
30	1.3	1.1	2.8	3.3	---	1.9	1.1	2.1	.67	.31	.32	.20
31	1.2	---	2.3	3.5	---	1.8	---	2.4	---	.32	.31	---
TOTAL	48.09	40.52	36.04	270.2	62.7	62.6	39.59	301.29	49.55	14.73	10.88	6.60
MEAN	1.55	1.35	1.16	8.72	2.24	2.02	1.32	9.72	1.65	.48	.35	.22
MAX	11	5.6	2.8	86	3.6	5.8	2.1	114	3.0	.74	1.2	.38
MIN	.56	.94	.94	1.8	1.5	1.1	.78	.99	.67	.30	.15	.14
AC-FT	95	80	71	536	124	124	79	598	98	29	22	13
CAL YR 1976	TOTAL	1251.00	MEAN 3.42	MAX 193	MIN .17	AC-FT 2480						
WTR YR 1977	TOTAL	942.79	MEAN 2.58	MAX 114	MIN .14	AC-FT 1870						

## LOS ANGELES RIVER BASIN

11098500 LOS ANGELES RIVER NEAR DOWNEY, CA

LOCATION.--Lat 33°56'58", long 118°10'23", in San Antonio Grant, Los Angeles County, on right bank 400 ft (122 m) downstream from Firestone Boulevard bridge, 1 mi (2 km) upstream from Rio Hondo, 2.5 mi (4.0 km) west of Downey and 33 mi (53 km) downstream from Hansen flood-control reservoir.

DRAINAGE AREA.--599 mi<sup>2</sup> (1,551 km<sup>2</sup>).

PERIOD OF RECORD.--March 1928 to current year.

GAGE.--Water-stage recorder. Datum of gage is 96.12 ft (29.297 m) above mean sea level (levels by Los Angeles County Flood Control District). See WSP 1735 for history of changes prior to Dec. 11, 1956.

REMARKS.--Records fair; poor above 100 ft<sup>3</sup>/s (2.83 m<sup>3</sup>/s). Flow regulated since September 1940 by Hansen flood-control reservoir, since December 1941 by Sepulveda flood-control reservoir, combined capacity, 49,400 acre-ft (60.9 hm<sup>3</sup>/yr), and several small flood-control reservoirs. City of Los Angeles stores imported Owens River water in San Fernando and Chatsworth Reservoirs and at times discharges imported water into Los Angeles River. Many diversions for domestic use and irrigation above station. See schematic diagram of San Gabriel and Los Angeles River basins.

COOPERATION.--Records were furnished by Los Angeles County Flood Control District.

AVERAGE DISCHARGE.--49 years (water years 1929-77), 111 ft<sup>3</sup>/s (3.144 m<sup>3</sup>/s), 80,420 acre-ft/yr (99.2 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 79,700 ft<sup>3</sup>/s (2,260 m<sup>3</sup>/s) Mar. 2, 1938, on basis of slope-area measurement; no flow at times in some years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 30,900 ft<sup>3</sup>/s (875 m<sup>3</sup>/s) Jan. 3, gage height 6.75 ft (2.057 m); minimum daily, 1.8 ft<sup>3</sup>/s (0.51 m<sup>3</sup>/s) Sept. 29.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	15	16	45	17	20	9.0	18	11	21	15	8.4
2	13	15	15	145	15	19	9.0	11	11	23	18	7.8
3	14	19	14	5000	16	19	8.4	9.8	9.8	24	17	7.2
4	16	13	15	134	15	20	8.4	9.0	9.0	26	14	6.6
5	16	12	15	808	17	19	9.0	9.0	9.0	28	15	6.0
6	16	13	13	2650	21	18	11	11	14	27	14	6.0
7	15	14	16	2410	16	19	12	51	12	24	16	6.6
8	16	15	22	156	15	23	12	5550	9.8	20	16	6.0
9	15	15	19	81	14	26	11	3430	12	18	14	5.4
10	19	16	18	60	13	24	11	222	17	17	9.8	8.4
11	19	19	17	36	14	25	11	50	20	17	8.4	7.8
12	17	1750	18	30	13	25	13	60	21	18	9.0	7.0
13	19	53	19	22	15	28	15	31	21	17	9.8	11
14	17	16	21	19	17	32	16	21	23	20	9.0	11
15	19	20	17	18	17	32	12	19	23	21	9.0	13
16	18	16	15	18	15	1270	12	16	26	23	16	11
17	16	17	15	17	17	231	13	15	27	24	5540	11
18	19	16	14	18	18	18	9.8	11	28	25	240	11
19	20	17	15	18	16	13	9.8	11	27	24	19	11
20	19	15	17	33	15	9.8	9.0	9.8	26	24	11	13
21	26	14	22	161	15	9.8	11	9.0	28	20	8.4	11
22	381	24	14	24	15	11	11	7.8	27	17	7.8	9.8
23	1400	23	15	16	95	12	9.8	45	24	15	8.4	11
24	36	18	15	18	101	32	11	130	22	15	9.0	11
25	27	15	13	15	39	2520	9.8	28	20	15	12	9.8
26	21	14	14	16	27	73	9.8	14	20	15	14	8.4
27	16	15	14	15	21	18	11	11	20	15	14	14
28	23	12	15	15	19	15	12	9.8	21	15	13	13
29	26	13	16	27	---	12	11	7.8	21	18	14	1.8
30	22	15	1570	21	---	9.8	11	8.4	21	17	15	11
31	15	---	251	22	---	7.8	---	11	---	14	14	---
TOTAL	2331	2249	2290	12068	648	4611.2	328.8	9846.4	580.6	617	6149.6	276.0
MEAN	75.2	75.0	73.9	389	23.1	149	11.0	318	19.4	19.9	198	9.20
MAX	1400	1750	1570	5000	101	2520	16	5550	28	28	5540	14
MIN	13	12	13	15	13	7.8	8.4	7.8	9.0	14	7.8	1.8
AC-FT	4620	4460	4540	23940	1290	9150	652	19530	1150	1220	12200	547
CAL YR 1976	TOTAL	29371.0	MEAN	80.2	MAX	3390	MIN	6.0	AC-FT	58260		
WTR YR 1977	TOTAL	41995.6	MEAN	115	MAX	5550	MIN	1.8	AC-FT	83300		

## 11101250 RIO HONDO ABOVE WHITTIER NARROWS DAM, CA

LOCATION.--Lat 34°03'32", long 118°04'13", in Potrero Grande Grant, Los Angeles County, on right bank 0.3 mi (0.5 km) downstream from Garvey Avenue, 0.4 mi (0.6 km) downstream from Rubio Wash, and 2.2 mi (3.5 km) west of El Monte.

DRAINAGE AREA.--91.2 mi<sup>2</sup> (236.2 km<sup>2</sup>).

PERIOD OF RECORD.--February 1956 to current year.

GAGE.--Water-stage recorder. Datum of gage is 217.8 ft (66.39 m) above mean sea level.

REMARKS.--Records good. Flow regulated by Big Santa Anita, Sawpit, and Eaton flood-control reservoirs, combined capacity, 1,700 acre-ft (2.01 hm<sup>3</sup>) and Sierra Madre, Las Flores, and Rubio debris basins. Many diversions above station for domestic use and irrigation. 11,160 acre-ft (13.8 hm<sup>3</sup>) were diverted by Los Angeles County Flood Control District from San Gabriel River below Santa Fe Dam to Rio Hondo during current year. See schematic diagram of San Gabriel and Los Angeles River basins.

COOPERATION.--Records of diversion were furnished by the Los Angeles County Flood Control District.

AVERAGE DISCHARGE.--21 years, 29.5 ft<sup>3</sup>/s (0.835 m<sup>3</sup>/s), 21,370 acre-ft/yr (26.3 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,700 ft<sup>3</sup>/s (501 m<sup>3</sup>/s) Jan. 25, 1969, gage height, 7.23 ft (2.204 m); no flow in some years.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 3,000 ft<sup>3</sup>/s (85.0 m<sup>3</sup>/s) and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)	Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage Height (ft) (m)
Oct. 23	0445	4490 127	3.93 1.198	May 8	1240	3030 85.8	3.51 1.070
Jan. 3	0205	*5270 149	4.12 1.256	Aug. 17	1020	3960 112	3.79 1.155

Minimum daily discharge, 0.20 ft<sup>3</sup>/s (0.006 m<sup>3</sup>/s) Nov. 28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.96	.96	.80	.49	.72	.93	.73	5.8	.38	.40	2.0	2.9
2	.84	1.3	.82	252	.53	1.5	.68	.96	.50	.31	1.8	2.6
3	.62	1.7	.77	515	.38	1.2	.71	1.1	.45	.31	1.9	.70
4	1.4	1.4	.69	.96	.38	2.3	.86	.72	.45	.26	2.5	1.4
5	1.4	1.4	1.3	292	.38	.46	.74	.96	.31	.33	2.4	1.3
6	1.4	1.3	.59	196	.38	.46	.84	.62	.45	.38	.67	1.1
7	1.6	.96	.61	230	.38	1.4	1.1	.62	.62	.46	.32	1.4
8	1.9	1.6	.58	.84	.45	2.5	.72	705	.53	.47	1.6	1.5
9	1.4	1.3	.78	.38	.45	1.3	.31	421	1.8	.33	2.0	1.1
10	1.4	1.1	.89	.62	.31	1.3	.38	43	2.2	.25	2.3	.62
11	3.1	1.6	.51	.53	.38	1.3	.45	.96	.39	.28	1.9	.32
12	2.1	256	.43	.45	.31	.53	.31	5.8	.33	.36	1.3	.97
13	1.7	.62	.63	.38	.31	.53	1.1	.72	.33	.37	.64	2.3
14	2.5	.62	.65	.84	.62	1.4	.25	.53	.43	.36	.32	1.3
15	2.7	.38	.53	.45	.45	2.3	.24	.53	.30	.39	.95	1.3
16	2.1	.62	.53	.46	.62	197	.23	.72	.45	.63	6.6	.79
17	1.7	.72	.84	.74	.53	4.3	.22	.46	.38	.33	713	1.5
18	1.9	.41	.84	1.3	.53	.84	.21	.52	.31	.39	5.6	1.5
19	1.3	.52	.72	1.4	.31	.53	.21	.53	.38	.47	1.9	.93
20	.99	.53	.84	13	.31	.45	.31	.62	.45	.63	.67	.42
21	1.2	.37	.84	22	.45	.45	.31	.45	.48	.56	.56	.37
22	6.0	.53	.62	3.4	.31	.45	.31	.38	.34	.53	.83	.46
23	359	.62	.53	2.9	22	.45	.25	2.3	.32	.75	2.3	1.9
24	1.2	.51	.53	1.7	25	18	.25	1.4	.50	.35	2.0	1.4
25	1.0	1.0	.31	1.1	1.6	294	.31	.62	.25	.72	1.2	1.2
26	.67	.53	.25	.45	1.1	3.5	.45	.45	.21	1.3	1.1	.34
27	.65	.54	.53	.45	1.1	.62	.45	.38	.26	2.2	1.1	.66
28	.85	.20	.62	.53	1.5	.72	.45	.38	.42	2.0	.28	.37
29	.61	.38	.96	.45	---	.72	.45	.72	.68	1.3	.75	.48
30	.71	.51	139	.38	---	.53	.31	.45	.54	.74	1.4	.62
31	.62	---	11	.45	---	1.3	---	.38	---	.55	1.8	---
TOTAL	405.52	280.23	169.54	1541.65	61.79	543.27	14.14	1199.08	15.44	18.71	763.69	33.75
MEAN	13.1	9.34	5.47	49.7	2.21	17.5	.47	38.7	.51	.60	24.6	1.13
MAX	359	256	139	515	25	294	1.1	705	2.2	2.2	713	2.9
MIN	.61	.20	.25	.38	.31	.45	.21	.38	.21	.25	.28	.32
AC-FT	804	556	336	3060	123	1080	28	2380	31	37	1510	67
CAL YR 1976	TOTAL	5572.39	MEAN	15.2	MAX	1010	MIN	.14	AC-FT	11050		
WTR YR 1977	TOTAL	5046.81	MEAN	13.8	MAX	713	MIN	.20	AC-FT	10010		

## LOS ANGELES RIVER BASIN

11101380 ALHAMBRA WASH AT KLINGERMAN STREET NEAR MONTEBELLO, CA

LOCATION.--Lat 34°03'22", long 118°05'12", in Potrero Grande Grant, Los Angeles County, on left bank 250 ft (76 m) north of Klingerman Street and 0.1 mi (0.2 km) south of Garvey Avenue in South San Gabriel.

DRAINAGE AREA.--15.2 mi<sup>2</sup> (39.4 km<sup>2</sup>), by Los Angeles County Flood Control District.

PERIOD OF RECORD.--October 1975 to current year. September 1936 to September 1975 in the files of Los Angeles County Flood Control District.

GAGE.--Water-stage recorder. Altitude of gage is 240 ft (73 m) from topographic map.

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

COOPERATION.--Records were furnished by Los Angeles County Flood Control District.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,820 ft<sup>3</sup>/s (51.5 m<sup>3</sup>/s) Feb. 5, 1976, gage height, 3.12 ft (0.951 m); minimum daily, 0.030 ft<sup>3</sup>/s (0.008 m<sup>3</sup>/s) several days in 1976 and 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge, 5,010 ft<sup>3</sup>/s (142 m<sup>3</sup>/s) Mar. 2, 1938, gage height unknown, from information by Los Angeles County Flood Control District.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,780 ft<sup>3</sup>/s (50.4 m<sup>3</sup>/s) Oct. 22, gage height, 3.08 ft (0.939 m); minimum daily, 0.30 ft<sup>3</sup>/s (0.008 m<sup>3</sup>/s) several days from March to August.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.8	1.1	.90	1.8	1.1	.30	.40	4.8	.30	.30	.30	.60
2	1.6	1.4	.90	111	1.1	.30	.40	.30	.30	.30	.30	.60
3	1.8	1.6	.90	252	1.1	.40	.40	.30	.30	.30	.30	.90
4	1.6	1.8	1.1	2.3	1.1	.40	.40	.30	.30	.30	.40	.90
5	1.6	1.6	1.1	83	1.1	.40	.40	.30	.30	.30	.30	.90
6	1.6	1.4	1.1	99	.90	.40	.30	.30	.30	.30	.30	.90
7	1.6	1.4	1.1	167	.90	.40	.40	.30	.40	.30	.30	.90
8	1.6	1.1	1.1	2.6	.90	.40	.40	218	.30	.30	.30	.90
9	1.6	1.1	1.4	1.4	.60	.40	.60	139	.40	.30	.30	.60
10	1.8	.90	1.4	1.4	.90	.30	.60	1.1	.40	.40	.30	.60
11	1.6	16	1.4	1.1	.60	.40	.60	.40	.30	.40	.30	.60
12	1.6	102	1.4	.90	.60	.40	.40	3.3	.30	.40	.30	.60
13	1.6	1.4	1.4	.90	.60	.30	.40	.30	.60	.30	.30	.90
14	1.6	1.4	1.6	1.4	.90	.30	.40	.30	.40	.40	.30	.90
15	1.6	1.1	1.6	.90	1.1	.40	.60	.30	.30	.40	.30	.90
16	1.4	1.1	1.6	.90	1.1	84	.40	.30	.30	.60	6.7	.90
17	.90	1.1	1.6	.60	1.1	.90	.40	.30	.30	.30	201	.90
18	.90	1.1	1.6	.40	1.1	.40	.60	.30	.30	.30	2.3	.60
19	.90	1.1	1.6	.60	1.1	.40	.40	.30	.30	.40	.40	.60
20	.90	1.4	1.6	4.6	1.1	.40	.40	.30	.30	.40	.30	.90
21	.60	1.4	1.6	1.1	1.1	.60	.40	.30	.30	.40	.30	.90
22	65	1.1	1.4	.90	1.4	.40	.40	.30	.30	.40	.40	.90
23	130	1.1	1.4	.90	8.8	1.3	.40	17	.30	.40	.40	.90
24	1.4	1.1	1.4	.60	3.3	10	.60	7.0	.40	.30	.40	.90
25	.90	.90	1.1	.60	1.4	130	.40	.30	.30	.30	1.4	.90
26	.90	.90	1.1	.90	1.4	1.1	.40	.30	1.1	.40	2.1	.90
27	.90	.90	1.1	.60	1.1	.40	.30	.30	1.1	.40	2.3	1.1
28	.90	.60	1.4	.40	1.1	.40	.30	.30	.30	.30	2.3	.90
29	.90	.60	1.4	.60	---	.40	.30	.30	.30	.40	1.8	1.1
30	.90	.90	56	.60	---	.40	.30	.30	.30	.40	.90	.90
31	.60	---	9.0	.90	---	.30	---	.30	---	.40	.60	---
TOTAL	232.60	150.60	103.30	741.90	38.60	236.90	12.70	397.50	11.40	11.10	228.20	25.00
MEAN	7.50	5.02	3.33	23.9	1.38	7.64	.42	12.8	.38	.36	7.36	.83
MAX	130	102	56	252	8.8	130	.60	218	1.1	.60	201	1.1
MIN	.60	.60	.90	.40	.60	.30	.30	.30	.30	.30	.30	.60
AC-FT	461	299	205	1470	77	470	25	788	23	22	453	50
CAL YR 1976	TOTAL	2225.70	MEAN 6.08	MAX 274	MIN .30	AC-FT 4410						
WTR YR 1977	TOTAL	2189.80	MEAN 6.00	MAX 252	MIN .30	AC-FT 4340						



## LOS ANGELES RIVER BASIN

11101500 RIO HONDO NEAR MONTEBELLO, CA

LOCATION.--Lat 34°02'00", long 118°04'22", in Potrero Grande Grant, Los Angeles County, on right bank 900 ft (274 m) upstream from Mission bridge, and 2 mi (3 km) northeast of Montebello.

DRAINAGE AREA.--116 mi<sup>2</sup> (300 km<sup>2</sup>), excludes area above Santa Fe Dam.

PERIOD OF RECORD.--October 1928 to current year.

GAGE.--Water-stage recorder. Datum of gage is 190.77 ft (58.147 m) above mean sea level (levels by Los Angeles County Flood Control District). See WSP 1735 for history of changes prior to September 1962.

REMARKS.--Records poor. Flow regulated by Big Santa Anita, Sawpit, and Eaton flood-control reservoirs, combined capacity, 1,700 acre-ft (2.10 hm<sup>3</sup>) and Sierra Madre, Las Flores, and Rubio debris basins. Many diversions above station for domestic use and irrigation. At times flow is diverted from San Gabriel River below Santa Fe Dam to Rio Hondo above station. Since 1957, with the exception of 1972, imported Colorado River water has been released to Rio Hondo 1.6 mi (2.6 km) above station for ground-water recharge. See schematic diagram of San Gabriel and Los Angeles River basins.

COOPERATION.--Records were furnished by Los Angeles County Flood Control District.

AVERAGE DISCHARGE.--29 years (water years 1929-57), 51.5 ft<sup>3</sup>/s (1.458 m<sup>3</sup>/s), 37,280 acre-ft/yr (46.0 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 28,000 ft<sup>3</sup>/s (793 m<sup>3</sup>/s) Mar. 2, 1938, gage height, 16.69 ft (5.087 m), present datum; from rating curve extended above 9,000 ft<sup>3</sup>/s (255 m<sup>3</sup>/s) on basis of slope-area measurement and runoff from contributing stream; no flow for some days in 1964-65.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.5	.50	.10	1.0	139	10		0			0	
2	2.1	.50	.10	118	139	17		0			0	
3	2.1	.50	.10	731	137	5.0		0			0	
4	1.7	.50	.10	6.3	137	3.0		0			0	
5	2.5	.50	.20	338	137	2.0		0			0	
6	2.1	.50	.10	390	133	1.0		0			0	
7	2.3	.50	.10	396	131	.50		0			0	
8	2.6	.50	.10	21	131	.40		811			0	
9	2.4	.50	.10	5.0	129	.30		640			0	
10	2.0	.50	.10	41	129	.20		117			0	
11	1.6	4.7	.10	164	129	.20		2.3			0	
12	1.3	416	.10	162	127	.20		5.9			0	
13	1.0	4.0	.10	153	127	.20		4.0			0	
14	.80	1.7	.10	147	127	.20		2.0			0	
15	.80	1.5	.10	147	127	.20		1.0			0	
16	.70	1.2	.10	145	127	232		.50			0	
17	.70	.80	.30	145	127	12		0			753	
18	.60	.60	.10	145	127	5.0		0			11	
19	.60	.50	.10	145	129	3.0		0			2.6	
20	.60	.30	.10	157	129	2.0		0			1.4	
21	.50	.20	.10	240	129	1.0		0			.50	
22	35	.10	.10	155	129	.50		0			0	
23	600	.10	.10	153	191	.20		36			0	
24	4.9	.10	.10	147	250	20		31			0	
25	1.9	.10	.10	139	196	448		2.3			0	
26	.50	.10	.10	141	196	25		0			0	
27	.50	.10	.10	141	199	10		0			0	
28	.50	.10	.10	141	146	5.0		0			0	
29	.50	.10	.10	141	---	2.0		0			0	
30	.50	.10	180	141	---	1.0		0			0	
31	.50	---	24	139	---	.50	---	0	---		0	---
TOTAL	676.30	437.40	207.20	5235.3	4054	807.60	0	1653.00	0	0	768.50	0
MEAN	21.8	14.6	6.68	169	145	26.1	0	53.3	0	0	24.8	0
MAX	600	416	180	731	250	448	0	811	0	0	753	0
MIN	.50	.10	.10	1.0	127	.20	0	0	0	0	0	0
AC-FT	1340	868	411	10380	8040	1600	0	3280	0	0	1520	0
CAL YR 1976 TOTAL	7792.50			MEAN 21.3	MAX 1400	MIN .10	AC-FT 15460					
WTR YR 1977 TOTAL	13839.30			MEAN 37.9	MAX 811	MIN 0	AC-FT 27450					

## LOS ANGELES RIVER BASIN

11102000 MISSION CREEK NEAR MONTEBELLO, CA

LOCATION.--Lat 34°01'45", long 118°04'07", in La Merced Grant, Los Angeles County, on upstream side of right abutment of San Gabriel Boulevard bridge, 2 mi (3 km) northeast of Montebello.

DRAINAGE AREA.--4.16 mi<sup>2</sup> (10.77 km<sup>2</sup>).

PERIOD OF RECORD.--October 1929 to current year. Yearly estimate for 1938, published in WSP 1315-B. Prior to October 1944, published as Rio Hondo Slough near Montebello.

GAGE.--Water-stage recorder. Datum of gage is 188.2 ft (57.36 m) above mean sea level. Prior to Nov. 3, 1938, at datum 6.30 ft (1.920 m) higher.

REMARKS.--Flow is almost entirely from ground-water seepage. Flow partially regulated above station by Legg Lake. No diversion above station. See schematic diagram of San Gabriel and Los Angeles River basins. No flow since Sept. 11, 1976. Discharge figures for the calendar year 1975 are as follows: Total, 1.6 ft<sup>3</sup>/s (0.05 m<sup>3</sup>/s); mean, 0.004 ft<sup>3</sup>/s (<0.001 m<sup>3</sup>/s); maximum daily, 1.6 ft<sup>3</sup>/s (0.05 m<sup>3</sup>/s); minimum daily, no flow most of year.

COOPERATION.--Records were furnished by Los Angeles County Flood Control District.

AVERAGE DISCHARGE.--48 years, 10.0 ft<sup>3</sup>/s (0.283 m<sup>3</sup>/s), 7,250 acre-ft/yr (8.94 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge not determined, occurred Mar. 2, 1938; no flow at times in some years.

EXTREMES FOR CURRENT YEAR.--No flow during year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												
26												
27												
28												
29					---							
30					---							
31		---			---		---		---			---
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0
MEAN	0	0	0	0	0	0	0	0	0	0	0	0
MAX	0	0	0	0	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	0	0	0	0	0	0	0	0	0	0
CAL YR 1976	TOTAL 1.60	MEAN .0040	MAX 1.6	MIN 0	AC-FT 3.2							
WTR YR 1977	TOTAL 0.00	MEAN .0000	MAX .00	MIN 0	AC-FT .0							

## 11102300 RIO HONDO BELOW WHITTIER NARROWS DAM, CA

LOCATION.--Lat 34°01'00", long 118°05'15", in Paso de Bartolo Grant, Los Angeles County, on right levee 0.2 mi (0.3 km) upstream from Beverly Boulevard, 0.4 mi (0.6 km) downstream from axis of Whittier Narrows Dam, and 1.0 mi (1.6 km) northeast of Montebello.

DRAINAGE AREA.--124 mi<sup>2</sup> (321 km<sup>2</sup>).

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

GAGE.--Water-stage recorder. Altitude of gage is 175 ft (53 m), from topographic map.

REMARKS.--Records fair. Flow regulated by Whittier Narrows flood-control reservoir, capacity, 36,160 acre-ft (44.6 hm<sup>3</sup>). There are several small flood-control reservoirs, combined capacities, 1,700 acre-ft (2.10 hm<sup>3</sup>) and several small debris basins above Whittier Narrows Dam. Many diversions for domestic use and irrigation. At times flow is diverted from San Gabriel River to Rio Hondo from sites below Santa Fe Dam and above Whittier Narrows Dam. See schematic diagram of San Gabriel and Los Angeles River basins.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 38,800 ft<sup>3</sup>/s (1,100 m<sup>3</sup>/s) Jan. 25, 1969, gage height, 13.82 ft (4.212 m), from rating curve extended above 15,000 ft<sup>3</sup>/s (425 m<sup>3</sup>/s) on basis of gate openings at dam at gage heights 12.32 ft (3.755 m) and 13.82 ft (4.212 m); no flow at times in each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,270 ft<sup>3</sup>/s (121 m<sup>3</sup>/s) Aug. 17, gage height, 4.26 ft (1.298 m); no flow for several days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.03	.25	8.4	26	180	40	6.4	6.4	2.8	3.7	3.7	0
2	.03	.25	6.4	50	173	56	6.4	6.4	0	0	0	0
3	.03	.25	6.4	697	166	56	6.4	4.8	0	0	0	0
4	.03	.50	6.4	79	166	56	6.4	2.8	0	0	0	0
5	.03	.50	6.4	257	173	50	3.7	0	0	0	0	0
6	.03	.50	6.4	550	166	45	6.4	0	0	1.1	0	.05
7	.03	.50	6.4	524	154	35	4.8	0	0	2.8	0	.06
8	.03	.50	4.8	31	154	14	6.4	629	0	.75	0	0
9	.03	.50	4.8	6.4	166	18	6.4	993	0	1.5	0	0
10	.03	.50	4.8	26	186	22	8.4	576	0	1.5	0	0
11	.03	.50	4.8	128	193	18	8.4	3.7	0	2.1	0	0
12	.03	327	4.8	141	193	4.8	3.7	2.8	0	2.8	0	0
13	.10	14	4.8	147	200	4.8	1.5	.75	0	2.8	0	0
14	.10	8.4	4.8	166	200	8.4	1.1	0	0	2.8	0	.59
15	.10	8.4	4.8	166	186	11	0	0	0	2.8	.07	1.1
16	.10	4.8	2.8	166	141	198	0	.75	0	2.8	.25	1.1
17	.20	6.4	.25	166	147	22	0	0	0	2.8	1140	0
18	.20	8.4	.25	173	160	6.4	2.8	0	0	2.8	9.7	0
19	.20	8.4	1.1	166	180	4.8	2.8	0	0	3.7	.03	0
20	.20	8.4	2.1	193	186	4.8	1.5	0	0	4.8	0	0
21	.20	11	2.8	272	186	2.1	2.8	0	0	3.7	0	.05
22	.20	11	2.8	180	180	.25	2.8	0	0	4.8	.09	0
23	443	8.4	2.8	186	257	0	3.7	22	0	4.8	0	0
24	.75	8.4	2.8	186	287	2.1	3.7	22	0	4.8	0	0
25	.25	8.4	28	180	221	410	4.8	4.8	0	4.8	0	0
26	.25	8.4	2.1	180	207	35	3.7	4.8	0	4.8	0	0
27	.25	8.4	.50	180	207	0	4.8	4.8	0	4.8	0	.27
28	.25	11	.25	180	154	0	4.8	4.8	0	4.8	0	.57
29	.25	11	.50	173	---	0	6.4	4.8	0	4.8	0	.93
30	.25	11	160	180	---	.70	6.4	4.8	0	6.4	0	.40
31	.25	---	26	180	---	6.4	---	4.8	---	6.4	0	---
TOTAL	447.46	495.95	320.25	5935.4	5169	1131.55	127.4	2304.00	2.8	96.45	1153.84	5.12
MEAN	14.4	16.5	10.3	191	185	36.5	4.25	74.3	.093	3.11	37.2	.17
MAX	443	327	160	697	287	410	8.4	993	2.8	6.4	1140	1.1
MIN	.03	.25	.25	6.4	141	0	0	0	0	0	0	0
AC-FT	888	984	635	11770	10250	2240	253	4570	5.6	191	2290	10
CAL YR 1976	TOTAL	15618.72	MEAN	42.7	MAX	1240	MIN	0	AC-FT	30980		
WTR YR 1977	TOTAL	17189.22	MEAN	47.1	MAX	1140	MIN	0	AC-FT	34090		

## LOS ANGELES RIVER BASIN

11102500 RIO HONDO NEAR DOWNEY, CA

LOCATION.--Lat 33°56'48", long 118°09'43", in San Antonio Grant, Los Angeles County, on left bank 700 ft (213 m) upstream from Stewart and Gray Road bridge, 1.0 mi (1.6 km) upstream from mouth, and 1.5 mi (2.4 km) west of Downey.

DRAINAGE AREA.--143 mi<sup>2</sup> (370 km<sup>2</sup>), excludes area above Santa Fe Dam.

PERIOD OF RECORD.--March 1928 to current year.

GAGE.--Water-stage recorder. Datum of gage is 91.4 ft (27.86 m) above mean sea level (levels by Los Angeles County Flood Control District). Prior to Oct. 31, 1951, at site 700 ft (213 m) downstream at datum 1.5 ft (0.46 m) lower.

REMARKS.--Records poor. Flow regulated since January 1956 by Whittier Narrows flood-control reservoir, capacity, 36,160 acre-ft (44.6 hm<sup>3</sup>). There are several small flood-control reservoirs, combined capacity, 1,700 acre-ft (2.10 hm<sup>3</sup>) and several debris basins above Whittier Narrows Dam. Many diversions above station for domestic use and irrigation. At times flow is diverted from San Gabriel River below Santa Fe Dam and above Whittier Narrows Dam to Rio Hondo above station. Since 1937 much of the flow in Rio Hondo has been diverted to percolation basin from a site 5.5 mi (8.8 km) upstream. See schematic diagram of San Gabriel and Los Angeles River basins.

COOPERATION.--Records were furnished by Los Angeles County Flood Control District.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 46,900 ft<sup>3</sup>/s (1,330 m<sup>3</sup>/s) Jan. 25, 1969, gage height, 15.15 ft (4.618 m); no flow at times in most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,890 ft<sup>3</sup>/s (81.8 m<sup>3</sup>/s) Oct. 23, gage height, 3.22 ft (0.981 m); no flow Nov. 28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.04	.05	.03	.05	.05	.30	.50	7.2	.07	.04	.07	.06
2	.05	.05	.03	23	.04	.05	.50	.70	.04	.05	.06	.05
3	.04	.05	.03	104	.04	.07	.30	.30	.05	.06	.05	.06
4	.05	.06	.04	.05	.06	.07	.30	.50	.04	.06	.04	.07
5	.06	.04	.05	83	.05	.06	.50	.30	.30	.04	.05	.07
6	.06	.05	.04	72	.30	.07	.05	.20	.06	.04	.06	.07
7	.05	.06	.04	99	.07	.07	.05	.20	.06	.04	.04	.07
8	.04	.06	.04	1.8	.07	.30	.03	431	.07	.05	.04	.07
9	.05	.06	.04	.30	.30	.70	.50	216	.07	.04	.04	.06
10	.05	.05	.04	.30	.05	.07	.70	14	.06	.04	.05	.05
11	.05	3.6	.04	.05	.06	.07	.70	2.6	.04	.04	.04	.05
12	.05	89	.04	.04	.70	.30	.70	1.2	.04	.04	.04	.07
13	.06	.05	.04	.04	1.4	.07	.50	.07	.04	.05	.06	.30
14	.06	.04	.05	.04	2.6	.30	.07	.05	.05	.04	.06	.30
15	.06	.04	.04	.04	3.2	.30	.05	.05	.05	.06	.07	.07
16	.06	.04	.04	.04	.50	72	.05	.05	.04	.07	6.1	.07
17	.06	.04	.04	.04	.50	1.4	.06	.04	.04	.06	619	.07
18	.06	.04	.04	.05	.30	.05	.06	.05	.04	.07	1.8	.07
19	.06	.04	.04	.06	.50	.05	.07	.04	.04	.30	.07	.30
20	.06	.05	.04	4.0	.50	.06	.07	.04	.05	.30	.04	.30
21	.07	.04	.04	8.0	.30	.07	.05	.05	.05	.30	.04	.07
22	.05	.04	.04	.04	.30	.06	.07	.06	.06	.07	.04	.30
23	310	.04	.04	.04	25	.30	.07	2.3	.04	.30	.07	.50
24	.05	.04	.04	.04	11	6.0	.07	1.8	.05	.07	.05	.30
25	.04	.04	.04	.04	.70	159	.07	.06	.04	.30	.04	.07
26	.04	.04	.04	.04	.30	.90	.50	.06	.04	.30	.05	.07
27	.04	.03	.03	.04	.50	.07	.70	.07	.04	.06	.06	.07
28	.04	0	.03	.06	1.0	.30	.50	.50	.04	.05	.06	.30
29	.04	.01	.50	.04	---	.06	.50	.06	.04	.04	.07	.30
30	.04	.02	90	.04	---	.05	.50	.06	.03	.07	.30	.30
31	.04	---	4.5	.04	---	.05	---	.06	---	.30	.07	---
TOTAL	311.52	93.77	96.09	396.32	50.39	243.22	8.79	679.67	1.68	3.35	628.63	4.51
MEAN	10.0	3.13	3.10	12.8	1.80	7.85	.29	21.9	.056	.11	20.3	.15
MAX	310	89	90	104	25	159	.70	431	.30	.30	619	.50
MIN	.04	0	.03	.04	.04	.05	.03	.04	.03	.04	.04	.05
AC-FT	618	186	191	786	100	482	17	1350	3.3	6.6	1250	8.9
CAL YR 1976	TOTAL	3817.18	MEAN	10.4	MAX	920	MIN	0	AC-FT	7570		
WTR YR 1977	TOTAL	2517.94	MEAN	6.90	MAX	619	MIN	0	AC-FT	4990		

## 11103000 LOS ANGELES RIVER AT LONG BEACH, CA

LOCATION.--Lat 33°49'02", long 118°12'20", in Los Cerritos Grant, Los Angeles County, on right bank 5,000 ft (1,524 m) upstream from Willow Street, 3.4 mi (5.5 km) north of Long Beach, and 3.7 mi (6.0 km) upstream from mouth.

DRAINAGE AREA.--827 mi<sup>2</sup> (2,140 km<sup>2</sup>).

PERIOD OF RECORD.--December 1928 to current year.

GAGE.--Water-stage recorder. Datum of gage is 11.91 ft (3.630 m) above mean sea level (levels by Los Angeles County Flood Control District). See WSP 1735 for history of changes prior to Jan. 19, 1956.

REMARKS.--Records fair. Flow regulated since September 1940 by Hansen flood-control reservoir, since December 1941 by Sepulveda flood-control reservoir, combined capacity, 49,400 acre-ft (60.9 hm<sup>3</sup>), and several small flood-control reservoirs. City of Los Angeles stores imported Owens River water in San Fernando and Chatsworth reservoirs and at times discharges imported water into Los Angeles River above station. Many diversions above station for domestic use and irrigation. AVERAGE DISCHARGE represents flow to the ocean, regardless of upstream development. See schematic diagram of San Gabriel and Los Angeles River basins.

COOPERATION.--Records were furnished by Los Angeles County Flood Control District.

AVERAGE DISCHARGE.--48 years (water years 1930-77), 165 ft<sup>3</sup>/s (4.673 m<sup>3</sup>/s), 119,500 acre-ft/yr (147 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 102,000 ft<sup>3</sup>/s (2,890 m<sup>3</sup>/s) Jan. 25, 1969, gage height, 16.00 ft (4.877 m); no flow at times in 1929-30, 1934.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 29,500 ft<sup>3</sup>/s (835 m<sup>3</sup>/s) Jan. 3, gage height, 7.98 ft (2.432 m); minimum daily, 5.3 ft<sup>3</sup>/s (0.15 m<sup>3</sup>/s) Sept. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	20	22	177	27	26	24	42	13	24	15	5.7
2	17	24	22	31	23	24	17	20	15	22	19	5.3
3	16	28	19	4860	26	24	13	19	13	20	19	5.7
4	18	25	24	181	24	29	13	16	13	19	15	6.0
5	21	23	26	683	24	25	15	15	13	20	19	6.0
6	25	20	25	3480	29	25	16	16	17	23	19	6.8
7	23	20	26	3090	28	24	18	15	14	24	19	7.2
8	22	21	29	184	23	28	18	6740	14	23	18	9.5
9	19	21	28	70	22	30	17	3740	16	23	18	8.5
10	22	22	27	55	19	29	16	474	22	23	13	13
11	24	25	28	40	20	28	15	60	30	24	12	11
12	22	2130	25	37	19	29	16	67	27	30	11	12
13	25	99	27	29	22	29	19	44	23	25	11	12
14	25	31	42	27	23	28	22	23	25	25	11	11
15	22	33	23	25	26	29	15	18	22	26	10	11
16	20	24	20	26	24	1560	16	14	28	26	18	9.5
17	17	23	20	25	24	537	16	13	30	23	7130	10
18	18	22	19	25	26	46	15	14	28	21	597	8.0
19	24	24	20	25	21	34	16	14	26	21	53	8.0
20	22	22	22	40	18	30	15	15	25	23	26	9.0
21	37	22	25	315	17	29	17	15	28	19	19	9.0
22	222	30	21	58	17	31	17	15	27	17	15	7.6
23	1750	30	20	38	156	24	16	57	25	15	15	8.5
24	80	28	20	38	244	32	15	215	24	15	12	8.0
25	34	23	17	34	71	3180	13	47	24	15	11	8.0
26	21	20	17	29	29	138	13	20	23	19	9.5	9.5
27	18	21	18	22	26	44	15	15	23	17	9.5	14
28	25	17	19	28	30	33	15	17	25	15	7.2	14
29	31	19	23	38	---	20	15	13	24	16	7.2	10
30	29	20	1580	27	---	15	14	12	24	16	7.6	9.5
31	20	---	394	28	---	19	---	15	---	14	6.8	---
TOTAL	2689	2887	2648	13765	1058	6179	482	11820	661	643	8172.8	273.3
MEAN	86.7	96.2	85.4	444	37.8	199	16.1	381	22.0	20.7	264	9.11
MAX	1750	2130	1580	4860	244	3180	24	6740	30	30	7130	14
MIN	16	17	17	22	17	15	13	12	13	14	6.8	5.3
AC-FT	5330	5730	5250	27300	2100	12260	956	23440	1310	1280	16210	542
CAL YR 1976 TOTAL	41727.0		MEAN 114	MAX 4660	MIN 12	AC-FT 82770						
WTR YR 1977 TOTAL	51278.1		MEAN 140	MAX 7130	MIN 5.3	AC-FT 101700						

## LOS ANGELES RIVER BASIN

11103010 LOS ANGELES RIVER AT WILLOW STREET BRIDGE, AT LONG BEACH, CA  
(National stream-quality accounting network station)

LOCATION.--Lat 33°48'16", long 118°12'15", in Los Cerritos Grant, Los Angeles County, on the Willow Street Bridge, 2.8 mi (4.5 km) upstream from mouth in Long Beach.

DRAINAGE AREA.--831 mi<sup>2</sup> (2,152 km<sup>2</sup>).

PERIOD OF RECORD.--February 1973 to current year.

CHEMICAL ANALYSES: February 1973 to current year.

SPECIFIC CONDUCTANCE: October 1973 to current year.

WATER TEMPERATURES: October 1973 to current year.

SEDIMENT RECORDS: Water year 1975 to current year (partial-record station).

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1973 to September 1975.

WATER TEMPERATURES: October 1973 to September 1975..

INSTRUMENTATION.--Specific-conductance recorder October 1973 to September 1975. Temperature recorder October 1973 to September 1975.

REMARKS.--Discharge values are from Los Angeles River at Long Beach (station 11103000).

EXTREMES FOR PERIOD OF RECORD.--

SPECIFIC CONDUCTANCE: Maximum recorded, 2,010 micromhos June 30, 1975; minimum recorded, 117 micromhos Mar. 6, 1975, minimum observed, 91 micromhos May 8, 1977.

WATER TEMPERATURES: Maximum recorded, 34.5°C, Aug. 7, 1975; minimum recorded, 2.0°C Jan. 31, 1975.

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	PH (UNITS)	TUR- BID- ITY (JTU)	FECAL COLI- FORM .7UM-MF (COL./ 100 ML)	FECAL STREP- TOCOCCEI KF AGAR (COL. PER 100 ML)	HARD- NESS (CA,MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)
OCT 06...	1115	19	8.1	25	815000	490	330	140	79	32	110
NOV 12...	1030	1160	7.3	150	89000	9600	71	18	21	4.5	16
DEC 08...	1030	34	8.4	8	1000	440	330	160	86	28	140
JAN 13...	0900	26	8.1	35	840	920	350	170	91	29	110
FEB 17...	0900	24	8.6	7	880	230	410	190	100	40	130
MAR 24...	1045	19	8.6	5	84900	83900	480	260	120	44	160
APR 25...	1030	13	9.7	5	813	853	410	280	88	47	180
MAY 23...	1045	15	8.8	2	--	140	410	300	98	39	176
JUN 21...	1045	32	8.3	10	84200	84400	390	160	100	33	140
JUL 26...	1115	24	8.4	25	822000	86400	450	170	110	42	160
AUG 24...	1045	11	9.1	3	8200	1850	290	200	81	22	160
SEP 15...	1030	12	8.5	8	81000	540	340	190	89	28	140

B Results based on non-ideal colony count.  
E Estimated

11103010 LOS ANGELES RIVER AT WILLOW STREET BRIDGE, AT LONG BEACH, CA--Continued

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	ALKA- LINITY AS CACO3 (MG/L)	CARBON DIOXIDE (CO2) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SIO2) (MG/L)
OCT 06...	41	2.6	9.6	233	0	191	3.0	200	110	.5	21
NOV 12...	31	.8	5.7	64	0	53	5.1	37	16	.2	4.0
DEC 08...	47	3.4	9.0	204	0	167	1.3	220	150	2.2	17
JAN 13...	40	2.6	7.3	213	0	175	2.7	210	130	.6	23
FEB 17...	40	2.8	11	276	0	226	1.1	270	150	.6	12
MAR 24...	41	3.2	10	268	0	220	1.1	370	160	.7	19
APR 25...	48	3.9	12	130	18	140	.1	400	180	.8	4.6
MAY 23...	27	1.5	11	130	0	110	.3	360	160	.8	12
JUN 21...	43	3.1	12	280	0	230	2.2	250	130	.8	23
JUL 26...	43	3.3	15	340	0	280	2.2	300	150	.7	28
AUG 24...	53	4.1	13	110	0	90	.1	330	170	.6	12
SEP 15...	47	3.3	10	180	0	150	.9	280	160	.7	19

DATE	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DIS- SOLVED SOLIDS (TONS PER AC-FT)	DIS- SOLVED SOLIDS (TONS PER DAY)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (NO3) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	TOTAL PHYTO- PLANK- TON (CELLS PER ML)
OCT 06...	703	677	.96	36.1	2.0	4.0	6.0	27	2.0	--
NOV 12...	161	136	.22	504	2.3	4.3	6.6	29	1.1	24000
DEC 08...	804	753	1.09	73.8	6.6	2.1	8.7	39	2.7	38000
JAN 13...	764	706	1.04	53.6	4.6	3.2	7.8	35	1.7	510
FEB 17...	890	850	1.21	57.7	4.6	2.9	7.5	33	2.1	18000
MAR 24...	1080	1020	1.47	55.4	5.3	2.1	7.4	33	3.1	--
APR 25...	978	995	1.33	34.3	1.2	2.9	4.1	18	.49	--
MAY 23...	988	816	1.34	40.0	4.3	2.1	6.4	28	.25	--
JUN 21...	857	827	1.17	74.0	8.1	4.6	13	56	3.1	31000
JUL 26...	997	973	1.36	64.6	4.5	19	24	100	5.6	150000
AUG 24...	830	843	1.13	24.7	2.3	2.2	4.5	20	.18	69000
SEP 15...	816	815	1.11	26.4	.03	--	--	--	.27	52000

11103010 LOS ANGELES RIVER AT WILLOW STREET BRIDGE, AT LONG BEACH, CA--Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	TEMPER- ATURE (DEG C)	DATE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	TEMPER- ATURE (DEG C)
OCT					DEC				
04...	1630	19	1110	20.0	20...	0830	25	1534	--
05...	1600	19	1147	21.0	21...	0800	29	1272	--
06...	1100	20	1150	23.5	21...	0830	28	1535	--
06...	1115	19	1120	23.5	22...	0800	26	1222	12.0
07...	1600	23	1153	20.0	22...	0830	26	1147	--
18...	1600	16	1192	19.0	23...	0800	23	1220	13.0
19...	1630	26	1130	20.0	23...	0830	22	1149	--
20...	1600	23	1028	21.0	27...	0830	18	1343	14.0
21...	1600	36	1096	19.0	28...	0800	25	1340	14.0
23...	0830	467	138	21.0	29...	0830	23	1203	11.0
23...	1630	4510	142	22.0	30...	0800	31	1203	11.0
25...	1630	30	1177	22.0	31...	0830	422	280	14.0
26...	1600	15	1142	21.0	JAN				
27...	0800	19	1100	22.0	03...	0800	4780	175	14.0
27...	1630	15	1182	20.0	03...	0830	4280	869	14.0
28...	1600	25	1083	21.0	03...	1200	1830	179	14.0
28...	1700	26	1127	19.0	04...	0800	135	856	9.0
NOV					05...	0830	58	870	9.0
12...	1000	1100	--	16.0	06...	0800	1120	141	9.0
12...	1030	1160	240	16.0	06...	1200	656	130	9.0
15...	0840	48	1007	12.0	06...	1700	5880	--	--
16...	0830	24	1009	12.0	07...	0800	7950	--	10.0
17...	0800	20	1114	15.0	07...	1000	5840	133	--
18...	0830	20	1119	15.0	07...	1630	1420	--	10.0
22...	0830	34	1110	--	10...	0800	51	132	10.0
23...	0800	33	1114	--	11...	0830	46	987	11.0
24...	0830	26	1100	--	12...	0830	38	1134	10.0
25...	0840	26	1096	--	13...	0800	26	1132	10.0
30...	0830	22	1283	--	13...	0900	26	1170	9.5
DEC					16...	0800	27	1325	13.0
01...	0805	20	1288	--	17...	0800	27	1325	13.0
02...	0800	21	1126	--	20...	0830	41	1374	12.0
03...	0830	12	1139	--	21...	0800	569	1377	13.0
06...	0800	27	1129	--	24...	1630	40	963	--
07...	0830	29	1126	--	25...	1600	34	959	--
07...	1100	29	--	--	26...	1630	27	1206	--
08...	0830	34	1208	--	27...	1600	25	1213	10.0
08...	1030	34	1260	11.0	31...	1600	30	1085	10.0
09...	0800	25	1211	--	FEB				
20...	0800	24	1269	--	01...	1600	27	1086	9.0



11103010 LOS ANGELES RIVER AT WILLOW STREET BRIDGE, AT LONG BEACH, CA--Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	TEMPER- ATURE (DEG C)	DATE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	TEMPER- ATURE (DEG C)
FEB					MAR				
02...	1630	23	1279	9.0	26...	0800	157	1440	20.0
03...	1630	25	1280	15.0	26...	1200	102	1460	20.0
07...	1630	28	1174	10.0	26...	1600	58	571	18.0
08...	1600	24	1175	9.0	26...	1630	638	--	18.0
09...	2000	24	1221	10.0	30...	0800	178	--	18.0
10...	1630	21	1216	13.0	APR				
14...	1600	23	1262	--	05...	1630	16	1550	19.0
15...	1630	25	1263	--	06...	1630	16	1550	18.0
16...	1600	22	1216	--	11...	1600	15	1360	19.0
17...	0900	24	1360	14.0	11...	1630	16	1560	19.0
21...	1630	18	1450	19.0	18...	1630	15	1540	19.0
22...	1600	18	1459	19.0	19...	1600	14	1540	20.0
23...	1630	352	337	18.0	20...	1600	15	1530	19.0
24...	1630	139	337	18.0	21...	1600	26	1530	20.0
25...	0800	70	414	16.0	25...	1030	13	1520	21.0
25...	1200	61	414	16.0	27...	1630	16	1540	20.0
25...	1630	37	--	17.0	MAY				
25...	1650	35	412	17.0	02...	1630	19	1440	20.0
MAR					04...	1600	16	1620	18.0
01...	1630	24	1406	20.0	05...	1630	17	1620	19.0
02...	1600	24	1304	20.0	08...	0800	5500	105	19.0
03...	1630	28	1299	18.0	08...	1200	16900	--	20.0
04...	1630	29	1417	18.0	08...	1600	11200	91	21.0
07...	1630	28	1378	18.0	09...	0800	4780	123	18.0
08...	1600	28	1377	19.0	09...	1200	2660	121	18.0
09...	1630	32	1449	18.0	09...	1630	1420	124	17.0
10...	1600	30	1437	--	10...	1630	184	750	16.0
14...	1600	32	1411	18.0	11...	1630	46	740	16.0
14...	1630	32	570	17.0	18...	0730	15	1640	16.0
15...	1600	34	234	18.0	19...	0730	15	1640	16.0
15...	1630	34	1330	18.0	23...	0800	11	1470	17.0
16...	1630	2130	1409	19.0	23...	1045	15	1400	17.5
17...	0800	620	309	16.0	24...	0730	83	1470	17.0
17...	1200	310	310	16.0	25...	0800	49	910	17.0
17...	1630	255	240	16.0	26...	0800	21	910	16.0
21...	0800	30	1570	17.0	30...	0800	11	1280	17.0
21...	1600	32	1600	19.0	31...	0800	13	1280	18.0
23...	1600	29	--	18.0	JUN				
24...	1045	19	1600	17.5	01...	1630	14	1240	30.0
24...	1630	21	1400	18.0	02...	1630	17	1230	30.0

## LOS ANGELES RIVER BASIN

11103010 LOS ANGELES RIVER AT WILLOW STREET BRIDGE, AT LONG BEACH, CA--Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	TEMPER- ATURE (DEG C)	DATE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	TEMPER- ATURE (DEG C)
JUN					AUG				
06...	1600	22	1260	24.0	16...	1630	2633	1330	25.0
07...	1600	15	1250	24.0	17...	0830	11100	194	21.0
08...	1630	15	1200	26.0	17...	1200	17300	191	22.0
09...	1630	18	1230	26.0	17...	1600	10200	192	22.0
16...	0800	30	1380	22.0	22...	0830	49	1300	20.0
17...	0830	30	1320	20.0	23...	0800	12	1300	21.0
18...	0830	31	1330	20.0	24...	1045	11	1290	26.5
20...	1600	29	1340	19.0	24...	1340	12	1340	21.0
21...	1045	32	1290	19.5	27...	0800	8.5	1320	20.0
21...	1630	23	1330	20.0	28...	0800	6.8	1330	20.0
22...	1630	27	1660	21.0	31...	0830	5.7	1190	19.0
27...	0830	28	1260	21.0	SEP				
27...	1630	28	1520	21.0	01...	0830	5.7	1170	19.0
JUL					15...	1030	12	1230	19.5
04...	0700	19	1370	20.0					
05...	0730	19	1370	19.0					
06...	0700	21	1350	19.0					
07...	0730	22	1350	20.0					
11...	0700	14	1490	20.0					
13...	0730	21	1530	20.0					
14...	0700	28	1530	20.0					
14...	0730	28	1490	20.0					
18...	0730	21	1350	20.0					
19...	0700	15	1350	20.0					
20...	0730	26	1340	20.0					
21...	0700	20	1340	20.0					
25...	0730	12	1420	20.0					
26...	0730	20	1420	20.0					
26...	1115	24	1450	26.0					
27...	0730	18	1420	20.0					
28...	0700	13	1420	20.0					
AUG									
01...	0800	12	1440	20.0					
02...	0730	16	1430	20.0					
03...	0800	19	1400	21.0					
08...	0800	20	1450	19.0					
09...	0830	22	1460	19.0					
10...	0900	12	1420	19.0					
11...	0830	11	1410	20.0					
15...	1530	8.0	1320	25.0					

11103010 LOS ANGELES RIVER AT WILLOW STREET BRIDGE, AT LONG BEACH, CA--Continued

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	TOTAL ARSENIC (AS) (UG/L)	SUS- PENDE ARSENIC (AS) (UG/L)	DIS- SOLVED ARSENIC (AS) (UG/L)	TOTAL CAD- MIUM (CD) (UG/L)	SUS- PENDE CAD- MIUM (CD) (UG/L)	DIS- SOLVED CAD- MIUM (CD) (UG/L)	TOTAL CHRO- MIUM (CR) (UG/L)	SUS- PENDE CHRO- MIUM (CR) (UG/L)	DIS- SOLVED CHRO- MIUM (CR) (UG/L)	TOTAL COBALT (CO) (UG/L)	SUS- PENDE COBALT (CO) (UG/L)
OCT 06...	1115	10	1	9	<10	<9	1	30	20	10	<50	<50
JAN 13...	0900	8	0	8	<10	<9	1	40	10	30	<50	<50
APR 25...	1030	3	2	1	<10	<7	3	--	--	40	<50	<50
JUL 26...	1115	7	2	5	10	6	4	60	40	20	<50	<50

DATE	DIS- SOLVED COBALT (CO) (UG/L)	TOTAL COPPER (CU) (UG/L)	SUS- PENDE COPPER (CU) (UG/L)	DIS- SOLVED COPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	SUS- PENDE LEAD (PB) (UG/L)	DIS- SOLVED LEAD (PB) (UG/L)	TOTAL MAN- GANESE (MN) (UG/L)	SUS- PENDE MAN- GANESE (MN) (UG/L)
OCT 06...	0	40	26	14	690	60	100	89	11	290	270
JAN 13...	0	50	40	10	6500	20	<100	<97	3	210	100
APR 25...	0	40	30	10	330	40	<100	<90	10	40	30
JUL 26...	0	60	52	8	3200	30	100	87	13	180	180

DATE	DIS- SOLVED MAN- GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	SUS- PENDE MERCURY (HG) (UG/L)	DIS- SOLVED MERCURY (HG) (UG/L)	TOTAL SELE- NIUM (SE) (UG/L)	SUS- PENDE SELE- NIUM (SE) (UG/L)	DIS- SOLVED SELE- NIUM (SE) (UG/L)	TOTAL ZINC (ZN) (UG/L)	SUS- PENDE ZINC (ZN) (UG/L)	DIS- SOLVED ZINC (ZN) (UG/L)	TOTAL ORGANIC CARBON (C) (MG/L)
OCT 06...	20	.0	.0	.0	1	0	1	130	100	30	19
JAN 13...	110	.1	.0	.1	3	1	2	120	90	30	17
APR 25...	10	.0	.0	.0	3	0	3	20	10	10	18
JUL 26...	0	.0	.0	.1	35	32	3	170	150	20	42

## LOS ANGELES RIVER BASIN

11103010 LOS ANGELES RIVER AT WILLOW STREET BRIDGE, AT LONG BEACH, CA--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

## PHYTOPLANKTON

DATE TIME	NOV 12,76 1030	DEC 8,76 1030	JAN 13,77 0900	FEB 17,77 0900				
TOTAL CELLS/ML	24000	38000	510	18000				
DIVERSITY: DIVISION	1.2	0.4	0.3	0.8				
..CLASS	1.2	0.4	0.3	0.8				
...ORDER	1.4	0.5	0.3	1.5				
....FAMILY	1.9	1.5	0.3	1.6				
....GENUS	2.4	1.6	0.3	1.6				
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)								
..CHLOROPHYCEAE								
...CHLOROCOCCALES								
....HYDRODICTYACEAE								
....PEDIASTRUM	1200	5	--	-	--	-	--	-
....MICRACTINIACEAE								
....GOLENKINIA	--	-	--	-	--	-	160	1
....MICRACTINIUM	--	-	--	-	--	-	*	0
...OOCYSTACEAE								
....ANKISTRODESMUS	--	-	--	-	--	-	*	0
....FRANCEIA	--	-	--	-	--	-	--	-
....KIRCHNERIELLA	--	-	--	-	--	-	--	-
....NEPHROCYTIUM	--	-	--	-	--	-	620	3
....SELENASTRUM	--	-	--	-	--	-	160	1
...SCENEDESMACEAE								
....SCENEDESMUS	150	1	1300	4	--	-	*	0
....TETRASTRUM	--	-	1300	4	--	-	--	-
..TETRASPORALES								
...PALMELLACEAE								
....GLOEOCYSTIS	--	-	--	-	--	-	--	-
..ULOTRICHALES								
...CHAEOTOPHORACEAE								
....STIGEOCLONIUM	--	-	--	-	--	-	1600	9
..VOLVOCALES								
...CHLAMYDOMONADACEAE								
....CARTERIA	--	-	--	-	--	-	--	-
....CHLAMYDOMONAS	--	-	--	-	12	2	11000#	63
....CHLOROGONIUM	--	-	--	-	--	-	--	-
....LOBOMONAS	--	-	--	-	--	-	--	-
..ZYGNEATALES								
...DESMIDIACEAE								
....COSMARIUM	--	-	--	-	--	-	--	-
CHRYSOPHYTA								
..BACILLARIOPHYCEAE								
...CENTRALES								
...COSCINODISCACEAE								
....CYCLOTELLA	1200	5	1000	3	--	-	*	0
....MELOSIRA	--	-	--	-	--	-	160	1
..PENNALES								
...ACHNANTHACEAE								
....ACHNANTHES	150	1	--	-	*	0	--	-
....COCCONEIS	*	0	--	-	--	-	--	-
....RHOICOSPHEINIA	*	0	--	-	--	-	--	-
...CYMBELLACEAE								
....AMPHORA	1100	5	660	2	--	-	--	-
....CYMBELLA	150	1	--	-	--	-	*	0
...FRAGILARIACEAE								
....FRAGILARIA	--	-	2300	6	--	-	--	-
....SYNEDRA	*	0	--	-	--	-	*	0
...GOMPHONEMATACEAE								
....GOMPHONEMA	*	0	--	-	--	-	160	1
...MERIDIONACEAE								
....MERIDION	*	0	--	-	--	-	--	-
...NAVICULACEAE								
....NAVICULA	1600	7	5600	15	--	-	*	0
...NITZSCHIIACEAE								
....DENTICULA	440	2	--	-	12	2	--	-
....NITZSCHIA	3100	13	26000#	68	--	-	3900#	22
..CHRYSOPHYCEAE								
...CHRYSONOMADALES								
...MALLOMONADACEAE								
....MALLOMONAS	--	-	--	-	--	-	--	-

See footnotes at end of table.

11103010 LOS ANGELES RIVER AT WILLOW STREET BRIDGE, AT LONG BEACH, CA--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

## PHYTOPLANKTON

DATE TIME	NOV 12,76 1030		DEC 8,76 1030		JAN 13,77 0900		FEB 17,77 0900	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CYANOPHYTA (BLUE-GREEN ALGAE)								
..CYANOPHYCEAE								
...CHROCOCCALES								
...CHROCOCCACEAE								
....ANACYSTIS	--	-	--	-	--	-	--	-
....HORMOGONALES								
....NOSTOCACEAE								
....ANABAENA	--	-	--	-	--	-	--	-
....APHANIZOMENON	--	-	--	-	--	-	--	-
...OSCILLATORIACEAE								
....LYNGBYA	1900	8	--	-	--	-	--	-
...OSCILLATORIA	13000#	54	--	-	490#	95	*	0
EUGLENOPHYTA (EUGLENIDS)								
..CRYPTOPHYCEAE								
..CRYPTOMONIDALES								
...CRYPTOCHRYSIDACEAE								
...CHROOMONAS	--	-	--	-	--	-	--	-
..EUGLENOPHYCEAE								
..EUGLENALES								
...EUGLENACEAE								
....EUGLENA	--	-	--	-	--	-	*	0
DATE TIME	JUN 21,77 1045		JUL 26,77 1115		AUG 24,77 1045		SEP 15,77 1030	
TOTAL CELLS/ML	31000		150000		69000		52000	
DIVERSITY: DIVISION	0.9		0.5		0.4		0.6	
..CLASS	0.9		0.5		0.4		0.6	
...ORDER	2.1		1.1		1.2		1.5	
...FAMILY	2.3		1.8		1.3		1.8	
...GENUS	2.3		1.8		2.1		1.8	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)								
..CHLOROPHYCEAE								
..CHLOROCOCCALES								
...HYDRODICTYACEAE								
...PEDIASTRUM	--	-	80000#	55	--	-	--	-
...MICRACTINIA								
...GOLLENKINIA	--	-	--	-	--	-	300	1
...MICRACTINIUM	--	-	--	-	--	-	1800	3
...OOCYSTACEAE								
...ANKISTRODESMUS	--	-	--	-	22000#	32	--	-
...FRANCEIA	--	-	*	0	--	-	--	-
...KIRCHNERIELLA	160	1	--	-	--	-	--	-
...NEPHROCYTIUM	--	-	--	-	--	-	--	-
...SELENASTRUM	--	-	--	-	--	-	--	-
...SCENEDESMACEAE								
...SCENEDESMUS	5700#	19	34000#	24	*	0	32000#	62
...TETRASTRUM	--	-	--	-	--	-	--	-
..TETRASPORALES								
...PALMELLACEAE								
...GLOEOCYSTIS	12000#	40	--	-	--	-	--	-
...ULOTRICHALES								
...CHAETOPHORACEAE								
...STIGEOCLONIUM	2900	9	20000	14	--	-	11000#	22
...VOLVOCALES								
...CHLAMYDOMONADACEAE								
....CARTERIA	--	-	--	-	--	-	*	0
....CHLAMYDOMONAS	--	-	--	-	2700	4	610	1
....CHLOROGONIUM	--	-	--	-	19000#	28	--	-
....LOBOMONAS	--	-	--	-	21000#	30	--	-
...ZYGNEMATALES								
...DESMIDIACEAE								
...COSMARIUM	--	-	*	0	--	-	*	0

See footnotes at end of table.

11103010 LOS ANGELES RIVER AT WILLOW STREET BRIDGE, AT LONG BEACH, CA--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

## PHYTOPLANKTON

DATE TIME	JUN 21,77 1045		JUL 26,77 1115		AUG 24,77 1045		SEP 15,77 1030	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHRYSTOPHYTA								
..BACILLARIOPHYCEAE								
...CENTRALES								
...COSCINODISCAEAE								
...CYCLOTELLA	2900	9	3700	3	--	--	1200	2
....MELOSIRA	--	--	* 0	0	--	--	--	--
..PENNALES								
...ACHNANTHACEAE								
....ACHNANTHES	--	--	--	--	--	--	--	--
....COCCONEIS	--	--	--	--	--	--	--	--
...RHOICOSPHEA	--	--	--	--	--	--	--	--
...CYMBELLACEAE								
....AMPHORA	--	--	--	--	--	--	--	--
....CYMBELLA	--	--	--	--	--	--	--	--
...FRAGILARIACEAE								
...FRAGILARIA	--	--	--	--	--	--	--	--
...SYNEDRA	--	--	--	--	2100	3	2400	5
...GOMPHONEMACEAE								
...GOMPHONEMA	--	--	* 0	0	--	--	--	--
...MERIDIONACEAE								
...MERIDION	--	--	--	--	--	--	--	--
...NAVICULACEAE								
...NAVICULA	5900#	19	--	--	2700	4	--	--
...NITZSCHIAEAE								
...DENTICULA	--	--	--	--	--	--	--	--
...NITZSCHIA	960	3	--	--	--	--	760	1
..CHRYSTOPHYCEAE								
..CHRYSONOMADALES								
...MALLONADACEAE								
...MALLONAS	--	--	* 0	0	--	--	--	--
CYANOPHYTA (BLUE-GREEN ALGAE)								
..CYANOPHYCEAE								
...CHROCOCCOCCALES								
...CHROCOCCOCCAEAE								
....ANACYSTIS	--	--	* 0	0	--	--	--	--
...HORMOGONALES								
...NOSTOCACEAE								
....ANABAENA	--	--	--	--	--	--	1400	3
...APHANIZOMENON	--	--	4900	3	--	--	--	--
...OSCILLATORIAEAE								
...LYNGBYA	--	--	--	--	--	--	--	--
...OSCILLATORIA	--	--	--	--	--	--	--	--
EUGLENOPHYTA (EUGLENOIDS)								
..CRYPTOPHYCEAE								
...CRYPTOMONIDALES								
...CRYPTOCHRYSIDACEAE								
....CHROOMONAS	--	--	* 0	0	--	--	--	--
..EUGLENOPHYCEAE								
...EUGLENALES								
...EUGLENACEAE								
...EUGLENA	--	--	--	--	--	--	--	--

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%

\* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

11103010 LOS ANGELES RIVER AT WILLOW STREET BRIDGE, AT LONG BEACH, CA--Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	TEMPER- ATURE (DEG C)	INSTAN- TANEOUS DIS- CHARGE (CFS)	SUS- PENDE SEDIM- ENT (MG/L)	SUS- PENDE SEDIM- ENT DIS- CHARGE (T/DAY)	SUS. SED. SIEVE DIAM. % FINER THAN .062 MM
OCT						
06...	1100	23.5	20	20	1.1	--
23...	0830	21.0	467	955	1200	--
23...	1630	22.0	4510	661	8050	--
NOV						
12...	1000	16.0	1100	765	2270	--
DEC						
07...	1100	--	29	17	1.3	50
08...	1030	11.0	34	36	3.3	76
31...	0830	14.0	422	100	114	99
JAN						
03...	0800	14.0	4780	2270	29300	90
03...	1200	14.0	1830	2850	14100	--
06...	0800	9.0	1120	1490	4510	--
06...	1200	9.0	656	1340	2370	75
06...	1700	--	5880	1250	19800	--
07...	0800	10.0	7950	1300	27900	--
07...	1630	10.0	1420	351	1350	--
13...	0900	9.5	26	180	13	64
FEB						
17...	0900	14.0	24	16	1.0	70
25...	0800	16.0	70	124	23	--
25...	1200	16.0	61	99	16	--
25...	1630	17.0	37	102	10	--
MAR						
17...	0800	16.0	620	503	842	--
17...	1200	16.0	310	481	403	--
17...	1630	16.0	255	441	304	95
23...	1600	18.0	29	22	1.7	--
24...	1045	17.5	19	51	2.6	26
26...	0800	20.0	157	22	9.3	--
26...	1200	20.0	102	21	5.8	--
26...	1630	18.0	638	22	38	--
30...	0800	18.0	178	22	11	--
APR						
25...	1030	21.0	13	59	2.1	57
MAY						
08...	0800	19.0	5500	838	12400	--
08...	1200	20.0	16900	913	41700	--
08...	1600	21.0	11200	785	23700	--
09...	0800	18.0	4780	3450	44500	--
MAY						
09...	1200	18.0	2660	4230	30400	--
09...	1630	17.0	1420	3100	11900	--
23...	1045	17.5	15	41	1.7	45
JUN						
21...	1045	19.5	32	242	21	25
JUL						
26...	1115	26.0	24	416	27	35
AUG						
17...	0830	21.0	11100	979	29300	--
17...	1200	22.0	17300	805	37600	32
17...	1600	22.0	10200	830	22900	--
24...	1045	26.5	11	6	.18	68
SEP						
15...	1030	19.5	12	90	2.9	46





## 11104000 TOPANGA CREEK NEAR TOPANGA BEACH, CA

LOCATION.--Lat 34°03'52", long 118°35'10", in Boca de Santa Monica Grant, Los Angeles County, on right downstream side of bridge abutment on State Highway 27, 1.7 mi (2.7 km) north of Topanga Beach.

DRAINAGE AREA.--18.0 mi<sup>2</sup> (46.6 km<sup>2</sup>).

PERIOD OF RECORD.--January 1930 to September 1938, October 1939 to current year.

GAGE.--Water-stage recorder. Datum of gage is 265.60 ft (80.955 m) above mean sea level (levels by Los Angeles County Flood Control District). Prior to June 5, 1940, at different datum. June 5, 1940, to Dec. 9, 1941, at site 400 ft (122 m) upstream at different datum.

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

COOPERATION.--Records were furnished by Los Angeles County Flood Control District.

AVERAGE DISCHARGE.--46 years (water years 1931-38, 1940-77), 5.40 ft<sup>3</sup>/s (0.153 m<sup>3</sup>/s), 3,910 acre-ft/yr (4.82 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,200 ft<sup>3</sup>/s (346 m<sup>3</sup>/s) Jan. 25, 1969, gage height, 13.36 ft (4.072 m), from rating curve extended above 610 ft<sup>3</sup>/s (17.3 m<sup>3</sup>/s) on basis of slope-area measurement of maximum flow; no flow at times in some years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 219 ft<sup>3</sup>/s (6.20 m<sup>3</sup>/s), Jan. 3, gage height, 6.25 ft (1.905 m); minimum daily, 0.04 ft<sup>3</sup>/s (0.001 m<sup>3</sup>/s) Aug. 8, 11-16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.10	.10	.10	1.1	.40	.30	.40	.20	.20	.10	.10	.10
2	.10	.10	.10	6.9	.40	.30	.40	.20	.20	.10	.10	.10
3	.10	.10	.10	30	.40	.30	.40	.20	.20	.10	.10	.10
4	.20	.10	.10	1.1	.40	.30	.30	.20	.20	.10	.10	.10
5	.20	.10	.10	.60	.40	.30	.30	.20	.20	.10	.10	.10
6	.20	.10	.10	18	.30	.20	.30	.20	.10	.10	.10	.10
7	.20	.10	.10	24	.30	.20	.30	.60	.10	.10	.10	.10
8	.20	.10	.10	3.6	.30	.20	.30	15	.10	.10	.04	.10
9	.20	.10	.10	1.7	.30	.20	.30	11	.10	.10	.10	.10
10	.10	.10	.10	.90	.30	.20	.40	2.2	.10	.10	.10	.10
11	.10	.10	.10	.70	.20	.20	.30	1.0	.10	.10	.04	.10
12	.10	1.1	.10	.60	.20	.20	.40	.80	.10	.10	.04	.10
13	.10	.20	.10	.40	.30	.20	.40	.60	.10	.10	.04	.10
14	.10	.20	.10	.40	.30	.20	.40	.50	.10	.10	.04	.10
15	.10	.20	.10	.40	.30	.20	.40	.40	.10	.10	.04	.10
16	.10	.20	.10	.40	.30	2.6	.40	.30	.10	.10	.04	.10
17	.10	.20	.10	.30	.30	1.2	.40	.30	.10	.10	3.6	.10
18	.10	.20	.10	.30	.30	.50	.40	.30	.10	.10	.80	.10
19	.10	.10	.10	.30	.30	.40	.40	.30	.10	.10	.20	.10
20	.10	.10	.10	.30	.30	.40	.30	.30	.10	.10	.10	.10
21	.10	.10	.10	.30	.30	.40	.20	.30	.10	.10	.10	.10
22	.10	.10	.10	.40	.30	.30	.20	.30	.10	.10	.10	.10
23	.10	.10	.10	.40	.40	.30	.20	.30	.10	.10	.10	.10
24	.10	.10	.10	.40	.40	.40	.20	.30	.10	.10	.10	.10
25	.10	.10	.20	.40	.40	6.0	.20	.30	.10	.10	.10	.10
26	.10	.10	.20	.40	.30	1.1	.20	.30	.10	.10	.10	.10
27	.10	.10	.20	.40	.30	.60	.20	.30	.10	.10	.10	.10
28	.10	.10	.20	.50	.30	.60	.20	.20	.10	.10	.10	.10
29	.10	.10	.20	.60	---	.50	.20	.20	.10	.10	.10	.10
30	.10	.10	2.6	.40	---	.40	.20	.20	.10	.10	.10	.10
31	.10	---	1.7	.40	---	.40	---	.20	.10	.10	.10	---
TOTAL	3.70	4.60	7.70	96.60	9.00	19.60	9.20	37.70	3.50	3.10	6.98	3.00
MEAN	.12	.15	.25	3.12	.32	.63	.31	1.22	.12	.10	.23	.10
MAX	.20	1.1	2.6	30	.40	6.0	.40	15	.20	.10	3.6	.10
MIN	.10	.10	.10	.30	.20	.20	.20	.20	.10	.10	.04	.10
AC-FT	7.3	9.1	15	192	18	39	18	75	6.9	6.1	14	6.0

CAL YR 1976 TOTAL 108.15 MEAN .30 MAX 24 MIN .04 AC-FT 215  
WTR YR 1977 TOTAL 204.68 MEAN .56 MAX 30 MIN .04 AC-FT 406

## MALIBU CREEK BASIN

11105500 MALIBU CREEK AT CRATER CAMP, NEAR CALABASAS, CA

LOCATION.--Lat 34°04'40", long 118°42'03", in SW¼ sec.18, T.1 S., R.17 W., Los Angeles County, on right bank 700 ft (213 m) downstream from Cold Creek, 0.2 mi (0.3 km) downstream from Crater Camp, and 6 mi (10 km) southwest of Calabasas.

DRAINAGE AREA.--105 mi<sup>2</sup> (272 km<sup>2</sup>).

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

GAGE.--Water-stage recorder. Datum of gage is 432.82 ft (131.924 m) above mean sea level (levels by Los Angeles County Flood Control District). Prior to Nov. 16, 1954, at datum 2.31 ft (0.704 m) lower.

REMARKS.--Records fair. Flow partly regulated by many small recreational reservoirs. Small diversions above station for domestic use.

COOPERATION.--Records were furnished by Los Angeles County Flood Control District.

AVERAGE DISCHARGE.--46 years, 21.0 ft<sup>3</sup>/s (0.595 m<sup>3</sup>/s), 15,210 acre-ft/yr (18.8 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 33,800 ft<sup>3</sup>/s (957 m<sup>3</sup>/s) Jan. 25, 1969, gage height, 21.43 ft (6.532 m), from rating curve extended above 6,000 ft<sup>3</sup>/s (170 m<sup>3</sup>/s) on basis of slope-area measurements at gage heights 17.27 ft (5.264 m) and 21.43 ft (6.532 m); no flow at times in some years prior to 1961.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 597 ft<sup>3</sup>/s (16.9 m<sup>3</sup>/s) Jan. 7, gage height, 4.48 ft (1.366 m); minimum daily, 1.1 ft<sup>3</sup>/s (0.031 m<sup>3</sup>/s) Oct. 13, July 31, Aug. 1-3, 13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.1	2.5	5.6	8.6	8.3	6.1	4.0	2.7	3.1	1.7	1.1	2.2
2	5.8	2.5	4.4	14	5.3	6.6	4.0	2.3	3.3	1.7	1.1	2.2
3	2.3	2.5	5.1	153	6.7	8.5	4.0	2.3	3.3	1.9	1.1	2.2
4	2.0	2.7	6.3	19	9.9	4.6	3.8	2.2	3.3	1.9	1.2	2.0
5	1.7	2.5	7.4	13	9.3	6.7	3.8	2.3	3.1	1.9	1.5	1.5
6	1.5	2.5	7.7	94	9.3	5.1	3.3	2.5	3.1	1.9	1.7	1.5
7	1.7	2.3	5.3	315	6.1	5.8	3.3	4.0	3.5	2.0	1.4	1.4
8	1.9	2.5	2.5	56	5.1	5.3	3.3	37	3.5	2.0	1.2	1.5
9	1.7	3.1	5.9	25	4.2	2.9	3.1	84	3.5	2.0	1.2	1.7
10	1.5	2.9	7.7	18	7.7	3.1	3.1	44	3.3	1.9	1.4	1.9
11	1.2	3.1	7.4	14	7.7	4.8	2.7	15	3.1	1.9	1.2	1.7
12	1.2	5.6	7.1	9.6	5.3	7.7	2.7	14	2.5	1.9	1.2	1.7
13	1.1	8.4	5.5	7.4	5.8	4.8	3.1	12	2.3	1.7	1.1	1.7
14	1.2	4.2	4.7	10	8.0	11	2.7	9.9	2.5	2.0	1.4	1.9
15	1.4	4.0	2.7	11	4.6	11	2.7	8.6	2.5	1.9	1.5	2.0
16	1.4	9.3	3.3	11	4.2	9.7	2.5	5.3	2.2	1.9	1.4	2.3
17	1.5	9.0	6.3	12	5.7	20	2.5	4.8	2.2	1.7	25	2.0
18	1.7	8.0	6.8	12	3.3	12	2.3	4.6	2.2	1.5	10	1.7
19	1.7	6.6	7.1	12	3.5	8.0	2.3	4.6	2.0	1.7	4.0	1.5
20	1.5	6.8	7.4	12	5.4	7.4	2.7	4.6	2.2	1.7	2.7	1.5
21	1.5	7.4	6.1	9.6	7.2	5.8	2.7	4.8	2.2	1.7	2.3	1.4
22	1.9	8.3	3.3	9.4	8.3	6.1	2.7	4.6	2.2	1.5	2.2	1.5
23	2.0	8.6	3.1	12	7.7	5.1	2.7	4.6	2.3	1.7	2.2	1.9
24	1.9	7.7	3.3	12	8.6	4.0	2.9	7.4	2.3	1.7	1.9	1.9
25	1.9	7.1	4.6	14	7.1	51	2.9	9.0	2.2	1.7	2.2	1.5
26	1.7	7.1	6.8	13	7.7	25	3.1	5.3	2.2	1.7	2.2	1.5
27	1.7	3.3	7.7	11	6.3	9.6	3.3	4.8	2.0	1.5	2.5	1.9
28	1.7	6.5	7.4	10	6.6	7.1	3.1	4.6	1.9	1.5	2.5	1.9
29	2.0	8.3	6.8	12	---	6.3	2.9	4.0	1.9	1.4	2.5	1.9
30	3.1	8.0	8.0	13	---	5.6	2.7	3.3	1.7	1.2	2.3	2.0
31	2.5	---	9.3	12	---	4.6	---	2.9	---	1.1	2.3	---
TOTAL	61.0	163.3	182.6	954.6	184.9	281.3	90.9	322.0	77.6	53.5	87.5	53.5
MEAN	1.97	5.44	5.89	30.8	6.60	9.07	3.03	10.4	2.59	1.73	2.82	1.78
MAX	5.8	9.3	9.3	315	9.9	51	4.0	84	3.5	2.0	25	2.3
MIN	1.1	2.3	2.5	7.4	3.3	2.9	2.3	2.2	1.7	1.1	1.1	1.4
AC-FT	121	324	362	1890	367	558	180	639	154	106	174	106
CAL YR 1976	TOTAL	1876.3	MEAN 5.13	MAX 163	MIN 1.1	AC-FT 3720						
WTR YR 1977	TOTAL	2512.7	MEAN 6.88	MAX 315	MIN 1.1	AC-FT 4980						

11105850 ARROYO SIMI NEAR SIMI, CA

LOCATION (REVISED).--Lat 34°16'23", long 118°47'13", SE¼SE¼NW¼ sec.8, T.2 N., R.18 W., Ventura County, on left bank 9 ft (3 m) upstream from concrete drop structure, 100 ft (30 m) downstream from intersection of Sinaloa Road and Aristotle Street, in town of Simi Valley, 0.4 mi (0.6 km) northwest of Simi, and 1.0 mi (1.6 km) upstream from Brea Canyon.

DRAINAGE AREA.--69.4 mi<sup>2</sup> (179.7 km<sup>2</sup>), revised. Area at site prior to Nov. 16, 1978, 70.6 mi<sup>2</sup> (182.9 km<sup>2</sup>).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1933 to September 1951, October 1952 to current year. Monthly discharge, in acre-ft only, for October 1933 to September 1951, October 1952 to October 1968, published in WSP 2128.

GAGE.--Water-stage recorder with concrete control since Nov. 16, 1976. Datum of gage is 729.35 ft (222.306 m) above mean sea level (levels by Ventura County Flood Control District). Prior to Nov. 16, 1976 at site 0.6 mi (1.0 km) downstream at different datum.

REMARKS.--Records good. No gage-height record Oct. 1 to Nov. 10. No regulation above station. Pumping from wells for irrigation. City of Simi Valley intermittently discharged ground water into channel from extraction wells this year.

COOPERATION.--Records were furnished by Ventura County Flood Control District and reviewed by Geological Survey.

AVERAGE DISCHARGE.--9 years (water years 1969-77) 6.54 ft<sup>3</sup>/s (0.185 m<sup>3</sup>/s), 4,740 acre-ft/yr (5.84 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,330 ft<sup>3</sup>/s (179 m<sup>3</sup>/s) Feb. 25, 1969, gage height, 5.7 ft (1.74 m), from floodmark; no flow at times in some years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 966 ft<sup>3</sup>/s (27.4 m<sup>3</sup>/s) Jan. 2 (2345 hrs), gage height, 2.22 ft (0.677 m), no other peak above base of 500 ft<sup>3</sup>/s (14.2 m<sup>3</sup>/s); minimum daily, 0.80 ft<sup>3</sup>/s (0.023 m<sup>3</sup>/s) Sept. 24.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.4	2.4	2.4	2.8	2.6	2.2	2.4	2.8	3.0	1.8	2.2	3.0
2	2.4	2.4	2.4	76	2.6	2.2	2.4	3.0	3.0	2.0	2.2	3.0
3	2.4	2.4	2.4	66	2.6	2.2	2.4	2.8	3.0	1.8	2.0	3.2
4	2.4	2.4	2.4	2.8	2.6	2.2	2.4	3.2	2.8	1.7	2.0	3.2
5	2.4	2.4	2.4	25	2.6	2.2	2.4	3.4	2.6	2.0	2.0	3.2
6	2.4	2.4	2.4	103	2.6	2.2	2.4	3.2	2.8	2.2	2.2	3.2
7	2.4	2.4	2.2	74	2.6	2.4	2.2	3.2	2.8	2.0	2.0	2.8
8	2.4	2.4	2.2	2.4	2.6	2.4	1.1	81	2.8	2.0	2.0	2.6
9	2.4	2.4	2.2	2.0	2.6	2.2	2.4	46	2.8	2.0	2.8	2.4
10	2.4	2.4	2.2	2.6	2.4	2.0	2.4	4.0	2.8	1.8	2.8	2.2
11	2.4	3.7	2.2	2.6	2.2	2.0	2.2	3.2	2.8	1.8	2.6	2.2
12	2.4	8.2	2.2	2.6	2.2	2.0	2.2	4.0	2.8	1.7	2.6	2.2
13	2.4	4.0	2.2	2.6	2.2	2.0	2.0	3.2	3.0	1.7	2.6	2.6
14	2.4	3.0	2.2	2.4	2.2	2.0	1.8	3.0	2.8	1.8	2.6	2.8
15	2.4	2.6	2.2	2.4	2.2	2.0	2.0	3.0	2.2	1.8	2.8	2.8
16	2.4	2.4	2.2	2.4	2.2	36	2.0	3.0	2.4	2.0	3.0	2.8
17	2.4	2.4	2.2	2.4	2.2	2.6	2.0	3.0	2.8	1.6	152	2.8
18	2.4	2.4	2.2	2.4	2.2	2.2	2.0	3.0	2.6	1.7	3.7	2.8
19	2.4	2.6	2.2	2.2	2.2	2.2	2.0	3.0	2.6	1.8	2.4	2.8
20	2.4	2.6	2.4	2.2	2.4	2.2	2.0	2.8	2.6	1.7	3.0	2.8
21	2.4	2.6	2.6	2.4	2.4	2.2	1.2	3.0	2.4	2.0	3.0	2.6
22	2.4	2.6	2.4	2.4	2.4	2.2	2.0	3.0	2.4	1.8	3.0	2.8
23	2.4	2.6	2.6	2.4	4.5	2.6	2.0	3.0	2.4	2.0	3.0	2.4
24	2.4	2.4	2.6	2.4	2.4	10	2.0	3.0	2.4	2.2	3.0	.80
25	2.4	2.4	2.6	2.4	2.4	81	2.2	3.0	2.4	2.2	3.0	.90
26	2.4	2.6	2.6	2.4	2.2	2.4	3.0	3.0	2.2	2.2	3.0	1.7
27	2.4	2.6	2.6	2.4	2.4	2.4	3.4	3.0	2.2	2.0	3.2	2.4
28	2.4	2.6	2.6	2.6	2.4	2.4	3.4	3.0	2.2	2.0	3.0	2.8
29	2.4	2.4	2.6	2.6	---	2.4	3.2	3.2	2.2	1.8	3.0	2.8
30	2.4	2.4	17	2.4	---	2.4	3.0	3.2	2.2	2.4	3.0	2.8
31	2.4	---	6.4	2.4	---	2.4	---	3.2	---	2.2	3.0	---
TOTAL	74.4	83.1	92.0	407.6	69.1	189.8	68.1	217.4	78.0	59.7	232.7	77.40
MEAN	2.40	2.77	2.97	13.1	2.47	6.12	2.27	7.01	2.60	1.93	7.51	2.58
MAX	2.4	8.2	17	103	4.5	81	3.4	81	3.0	2.4	152	3.2
MIN	2.4	2.4	2.2	2.0	2.2	2.0	1.1	2.8	2.2	1.6	2.0	.80
AC-FT	148	165	182	808	137	376	135	431	155	118	462	154
CAL YR 1976 TOTAL	1256.08			MEAN 3.43	MAX 162	MIN 0	AC-FT 2490					
WTR YR 1977 TOTAL	1649.30			MEAN 4.52	MAX 152	MIN .80	AC-FT 3270					



11105850 ARROYO SIMI NEAR SIMI, CA--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	OCTOBER			NOVEMBER			DECEMBER		
	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	2.4	20	.14	2.4	7	.05	2.4	6	.04
2	2.4	20	.14	2.4	8	.05	2.4	6	.04
3	2.4	20	.14	2.4	10	.06	2.4	6	.04
4	2.4	20	.14	2.4	12	.08	2.4	6	.04
5	2.4	20	.14	2.4	14	.09	2.4	6	.04
6	2.4	30	.19	2.4	14	.09	2.4	6	.04
7	2.4	30	.19	2.4	15	.10	2.2	6	.04
8	2.4	30	.19	2.4	16	.10	2.2	5	.03
9	2.4	30	.19	2.4	14	.09	2.2	5	.03
10	2.4	30	.19	2.4	12	.08	2.2	5	.03
11	2.4	40	.26	3.7	30	1.3	2.2	5	.03
12	2.4	40	.26	8.2	49	4.2	2.2	5	.03
13	2.4	40	.26	4.0	7	.08	2.2	5	.03
14	2.4	40	.26	3.0	11	.09	2.2	7	.04
15	2.4	40	.26	2.6	8	.06	2.2	8	.05
16	2.4	50	.32	2.4	5	.03	2.2	9	.05
17	2.4	50	.32	2.4	2	.01	2.2	11	.07
18	2.4	50	.32	2.4	4	.03	2.2	13	.08
19	2.4	50	.32	2.6	6	.04	2.2	15	.09
20	2.4	50	.32	2.6	7	.05	2.4	17	.11
21	2.4	60	.39	2.6	7	.05	2.6	20	.14
22	2.4	67	.43	2.6	7	.05	2.4	24	.16
23	2.4	66	.43	2.6	8	.06	2.6	28	.20
24	2.4	64	.41	2.4	8	.05	2.6	31	.22
25	2.4	62	.40	2.4	7	.05	2.6	34	.24
26	2.4	61	.40	2.6	7	.05	2.6	37	.26
27	2.4	60	.39	2.6	6	.04	2.6	40	.28
28	2.4	58	.38	2.6	6	.04	2.6	43	.30
29	2.4	56	.36	2.4	5	.03	2.6	43	.30
30	2.4	40	.26	2.4	5	.03	17	304	50
31	2.4	24	.16	---	---	---	6.4	118	6.8
TOTAL	74.4	---	8.56	83.1	---	7.13	92.0	---	59.85

DAY	JANUARY			FEBRUARY			MARCH		
	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	2.8	27	.20	2.6	57	.40	2.2	91	.54
2	76	1980	3240	2.6	58	.41	2.2	98	.58
3	66	2520	2530	2.6	60	.42	2.2	105	.62
4	2.8	48	.36	2.6	61	.43	2.2	112	.67
5	25	733	237	2.6	56	.39	2.2	118	.70
6	103	1590	580	2.6	51	.36	2.2	90	.53
7	74	813	428	2.6	46	.32	2.4	63	.41
8	2.4	11	.07	2.6	37	.26	2.4	35	.23
9	2.0	8	.04	2.6	28	.20	2.2	47	.28
10	2.6	6	.04	2.4	20	.13	2.0	59	.32
11	2.6	9	.06	2.2	11	.07	2.0	71	.38
12	2.6	12	.08	2.2	10	.06	2.0	83	.45
13	2.6	16	.11	2.2	10	.06	2.0	100	.54
14	2.4	15	.10	2.2	9	.05	2.0	117	.63
15	2.4	14	.09	2.2	9	.05	2.0	134	.72
16	2.4	12	.08	2.2	16	.10	36	798	235
17	2.4	11	.07	2.2	24	.14	2.6	190	1.3
18	2.4	20	.13	2.2	24	.14	2.2	124	.74
19	2.2	30	.18	2.2	24	.14	2.2	118	.70
20	2.2	40	.24	2.4	20	.13	2.2	112	.67
21	2.4	49	.32	2.4	16	.10	2.2	106	.63
22	2.4	42	.27	2.4	12	.08	2.2	101	.60
23	2.4	35	.23	4.5	97	1.6	2.6	101	.71
24	2.4	28	.18	2.4	109	.71	10	410	48
25	2.4	36	.23	2.4	122	.79	81	1200	891
26	2.4	44	.29	2.2	90	.53	2.4	115	.75
27	2.4	52	.34	2.4	90	.58	2.4	93	.60
28	2.6	60	.42	2.4	91	.59	2.4	82	.53
29	2.6	59	.41	---	---	---	2.4	72	.47
30	2.4	58	.38	---	---	---	2.4	47	.30
31	2.4	56	.36	---	---	---	2.4	22	.14
TOTAL	407.6	---	7020.28	69.1	---	9.24	189.8	---	1189.74

## CALLEGUAS CREEK BASIN

11105850 ARROYO SIMI NEAR SIMI, CA--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	APRIL			MAY			JUNE		
	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	2.4	20	.13	2.8	34	.26	3.0	17	.14
2	2.4	19	.12	3.0	34	.28	3.0	19	.15
3	2.4	18	.12	2.8	48	.36	3.0	21	.17
4	2.4	17	.11	3.2	40	.35	2.8	24	.18
5	2.4	16	.10	3.4	31	.28	2.6	28	.20
6	2.4	30	.19	3.2	22	.19	2.8	32	.24
7	2.2	45	.27	3.2	22	.19	2.8	36	.27
8	1.1	60	.18	81	2050	651	2.8	39	.29
9	2.4	74	.48	46	827	170	2.8	36	.27
10	2.4	57	.37	4.0	20	.22	2.8	34	.26
11	2.2	40	.24	3.2	25	.22	2.8	32	.24
12	2.2	23	.14	4.0	30	.32	2.8	30	.23
13	2.0	27	.15	3.2	35	.30	3.0	27	.22
14	1.8	32	.16	3.0	39	.32	2.8	24	.18
15	2.0	36	.19	3.0	39	.32	2.2	33	.20
16	2.0	40	.22	3.0	39	.32	2.4	42	.27
17	2.0	50	.27	3.0	39	.32	2.8	51	.39
18	2.0	59	.32	3.0	34	.28	2.6	60	.42
19	2.0	68	.37	3.0	28	.23	2.6	45	.32
20	2.0	68	.37	2.8	23	.17	2.6	31	.22
21	1.2	68	.22	3.0	22	.18	2.4	47	.30
22	2.0	69	.37	3.0	20	.16	2.4	37	.24
23	2.0	69	.37	3.0	19	.15	2.4	27	.17
24	2.0	57	.31	3.0	18	.15	2.4	16	.10
25	2.2	44	.26	3.0	19	.15	2.4	21	.14
26	3.0	32	.26	3.0	20	.16	2.2	26	.15
27	3.4	32	.29	3.0	21	.17	2.2	31	.18
28	3.4	33	.30	3.0	22	.18	2.2	36	.21
29	3.2	33	.29	3.2	20	.17	2.2	40	.24
30	3.0	33	.27	3.2	18	.16	2.2	38	.23
31	---	---	---	3.2	15	.13	---	---	---
TOTAL	68.1	---	7.44	217.4	---	827.69	78.0	---	6.82
DAY	JULY			AUGUST			SEPTEMBER		
	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	1.8	36	.17	2.2	20	.12	3.0	17	.14
2	2.0	34	.18	2.2	19	.11	3.0	14	.11
3	1.8	33	.16	2.0	18	.10	3.2	11	.10
4	1.7	32	.15	2.0	17	.09	3.2	16	.14
5	2.0	30	.16	2.0	16	.09	3.2	21	.18
6	2.2	28	.17	2.2	15	.09	3.2	26	.22
7	2.0	26	.14	2.0	24	.13	2.8	22	.17
8	2.0	25	.14	2.0	33	.18	2.6	17	.12
9	2.0	30	.16	2.8	43	.33	2.4	13	.08
10	1.8	34	.17	2.8	43	.33	2.2	24	.14
11	1.8	38	.18	2.6	43	.30	2.2	35	.21
12	1.7	43	.20	2.6	43	.30	2.2	46	.27
13	1.7	38	.17	2.6	34	.24	2.6	57	.40
14	1.8	32	.16	2.6	25	.18	2.8	68	.51
15	1.8	26	.13	2.8	17	.13	2.8	86	.65
16	2.0	21	.11	3.0	17	.14	2.8	72	.54
17	1.6	21	.09	152	1730	1530	2.8	59	.45
18	1.7	21	.10	3.7	91	.91	2.8	45	.34
19	1.8	21	.10	2.4	82	.53	2.8	32	.24
20	1.7	36	.17	3.0	71	.58	2.8	18	.14
21	2.0	52	.28	3.0	60	.49	2.6	24	.17
22	1.8	48	.23	3.0	48	.39	2.8	30	.23
23	2.0	44	.24	3.0	37	.30	2.4	37	.24
24	2.2	40	.24	3.0	50	.41	.80	43	.09
25	2.2	36	.21	3.0	62	.50	.90	32	.08
26	2.2	33	.20	3.0	74	.60	1.7	21	.10
27	2.0	30	.16	3.2	87	.75	2.4	24	.16
28	2.0	27	.15	3.0	66	.53	2.8	28	.21
29	1.8	24	.12	3.0	45	.36	2.8	31	.23
30	2.4	21	.14	3.0	24	.19	2.8	34	.26
31	2.2	20	.12	3.0	20	.16	---	---	---
TOTAL	59.7	---	5.10	232.7	---	1539.56	77.40	---	6.92
YEAR	1649.30		10688.33						

11105850 ARROYO SIMI NEAR SIMI, CA--Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	TEMPER- ATURE (DEG C)	INSTAN- TANEOUS OIS- CHARGE (CFS)	SUS- PENDE SEDI- MENT (MG/L)	SUS- PENDE SEDI- MENT DIS- CHARGE (T/DAY)	SUS. SED. FALL DIAM. % FINER THAN .002 MM	SUS. SED. FALL DIAM. % FINER THAN .004 MM	SUS. SED. FALL DIAM. % FINER THAN .008 MM	SUS. SED. FALL DIAM. % FINER THAN .016 MM	SUS. SED. FALL DIAM. % FINER THAN .031 MM
JAN										
03...	0915	10.5	9.0	1180	29	52	79	94	98	100
03...	1140	10.5	4.6	816	10	58	83	97	99	100
06...	1145	11.5	137	1060	392	47	62	76	87	92
06...	1410	13.0	54	1530	223	42	57	72	84	92
07...	1200	13.0	13	1550	54	44	62	80	92	97
MAR										
16...	0905	8.0	222	1440	863	24	36	50	65	79
MAY										
09...	1500	15.0	31	805	67	65	77	90	95	97

DATE	SUS. SED. FALL DIAM. % FINER THAN .062 MM	SUS. SED. SIEVE DIAM. % FINER THAN .062 MM	SUS. SED. FALL DIAM. % FINER THAN .125 MM	SUS. SED. SIEVE DIAM. % FINER THAN .125 MM	SUS. SED. FALL DIAM. % FINER THAN .250 MM	SUS. SED. SIEVE DIAM. % FINER THAN .250 MM	SUS. SED. FALL DIAM. % FINER THAN .500 MM	SUS. SED. SIEVE DIAM. % FINER THAN .500 MM	SUS. SED. SIEVE DIAM. % FINER THAN 1.00 MM
JAN									
03...	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--
06...	--	97	--	99	--	100	--	--	--
06...	97	--	99	--	99	--	100	--	--
07...	--	98	--	98	--	99	--	99	100
MAR									
16...	--	88	--	95	--	99	--	100	--
MAY									
09...	--	100	--	--	--	--	--	--	--

11106400 CONEJO CREEK ABOVE HIGHWAY 101, NEAR CAMARILLO, CA

LOCATION.--Lat 34°14'12", long 118°57'50", T.2 N., R.20 W., Ventura County, on left bank 2.6 mi (4.2 km) upstream from U.S. Highway 101, and 4.4 mi (7.1 km) northeast of Camarillo.

DRAINAGE AREA.--64.2 mi<sup>2</sup> (166.3 km<sup>2</sup>).

PERIOD OF RECORD.--October 1972 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 180 ft (55 m), from topographic map.

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

COOPERATION.--Records were furnished by Ventura County Flood Control District; one discharge measurement was made and records were reviewed by Geological Survey.

AVERAGE DISCHARGE.--5 years, 13.5 ft<sup>3</sup>/s (0.382 m<sup>3</sup>/s), 9,780 acre-ft/yr (12.1 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,740 ft<sup>3</sup>/s (163 m<sup>3</sup>/s) Feb. 11, 1973, gage height, 7.35 ft (2.240 m); minimum daily, 0.13 ft<sup>3</sup>/s (0.004 m<sup>3</sup>/s) May 31, 1973.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 600 ft<sup>3</sup>/s (17.0 m<sup>3</sup>/s) revised, and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)	Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)
Jan. 3	0030	1350 38.2	4.64 1.414	Aug. 17	1100	780 22.1	3.85 1.173
Jan. 6	2200	*2280 64.6	5.60 1.707				

Minimum daily discharge, 3.1 ft<sup>3</sup>/s (0.088 m<sup>3</sup>/s) Mar. 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	9.4	10	12	10	6.9	10	7.9	8.9	6.0	6.9	7.4
2	9.4	9.4	9.4	24	10	7.4	10	7.9	8.9	6.0	6.9	6.9
3	8.9	9.4	8.9	217	10	6.4	9.4	7.4	8.9	6.0	6.9	4.8
4	8.9	9.4	10	15	10	7.8	8.9	7.4	8.9	6.0	6.9	6.4
5	8.9	9.4	10	29	9.4	5.5	8.9	7.4	8.9	6.0	6.9	6.0
6	8.4	8.9	10	438	9.4	3.1	8.9	8.4	8.9	6.9	6.4	6.0
7	8.4	8.9	10	303	10	5.1	9.4	9.4	9.4	7.4	6.0	6.0
8	8.4	9.4	10	24	9.4	4.3	7.9	88	9.4	6.9	6.0	6.4
9	8.4	9.4	10	16	9.4	4.7	8.4	82	9.4	6.9	6.4	7.9
10	8.9	9.4	10	14	7.9	5.5	9.4	15	8.9	6.0	6.9	6.4
11	8.9	10	10	12	9.4	5.5	9.4	10	8.9	6.9	6.9	6.9
12	9.4	20	10	12	9.4	6.0	10	10	8.9	6.9	5.1	6.9
13	9.4	10	11	11	9.4	5.5	8.4	9.4	8.9	6.0	4.3	5.5
14	9.4	10	10	10	9.4	6.4	7.4	9.4	8.4	5.5	4.3	6.0
15	8.9	10	10	10	9.4	8.4	8.4	8.9	7.4	5.5	6.9	7.9
16	9.4	9.4	9.4	9.4	9.4	54	7.9	9.4	7.4	5.5	10	7.9
17	9.4	8.9	9.4	9.4	8.9	19	7.9	9.4	7.4	6.4	120	6.9
18	10	9.4	9.4	9.4	9.4	10	7.9	8.9	7.4	7.4	17	6.4
19	10	10	9.4	8.9	8.9	9.4	7.4	8.9	7.4	7.4	8.4	7.4
20	10	9.4	10	8.9	8.4	8.9	7.4	9.4	7.4	7.4	7.4	6.9
21	9.4	10	10	8.9	8.9	8.9	7.4	9.4	6.4	6.9	6.9	6.0
22	9.4	10	10	8.9	10	8.9	7.9	8.4	6.0	6.9	7.5	5.5
23	9.4	10	9.4	8.9	20	8.9	6.9	8.9	6.9	6.9	8.4	6.9
24	8.4	10	10	9.4	13	10	7.4	8.9	6.4	6.9	8.4	6.0
25	9.4	10	10	10	10	148	8.9	11	6.0	6.9	8.4	6.0
26	9.4	10	8.9	10	7.4	14	8.9	7.9	6.4	6.9	7.9	6.9
27	7.9	9.4	10	10	6.0	11	8.9	8.9	6.4	6.9	7.9	7.4
28	8.9	9.4	11	20	7.4	10	8.9	8.4	6.0	6.9	7.4	6.5
29	8.9	9.4	10	14	---	10	8.4	8.4	5.5	6.9	7.4	7.4
30	9.4	10	32	10	---	10	7.4	8.4	6.0	6.9	7.9	7.4
31	9.4	---	13	10	---	10	---	9.4	---	6.9	7.4	---
TOTAL	285.3	298.3	331.2	1313.1	270.2	439.5	254.3	432.5	232.0	204.9	342.0	198.9
MEAN	9.20	9.94	10.7	42.4	9.65	14.2	8.48	14.0	7.73	6.61	11.0	6.63
MAX	12	20	32	438	20	148	10	88	9.4	7.4	120	7.9
MIN	7.9	8.9	8.9	8.9	6.0	3.1	6.9	7.4	5.5	5.5	4.3	4.8
AC-FT	566	592	657	2600	536	872	504	858	460	406	678	395
CAL YR 1976	TOTAL	4122.8	MEAN 11.3	MAX 195	MIN 6.1	AC-FT 8180						
WTR YR 1977	TOTAL	4602.2	MEAN 12.6	MAX 438	MIN 3.1	AC-FT 9130						



11106550 CALLEGUAS CREEK AT CAMARILLO STATE HOSPITAL, CA

LOCATION.--Lat 34°10'46", long 119°02'20", in Guadalupe Grant, Ventura County, on downstream side of county road bridge, 1.0 mi (1.6 km) northeast of Camarillo State Hospital, and 1.4 mi (2.3 km) downstream from Conejo Creek.

DRAINAGE AREA.--248 mi<sup>2</sup> (642 km<sup>2</sup>).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1968 to current year.

GAGE.--Water-stage recorder. Datum of gage is 58.42 ft (17.806 m) above mean sea level (levels by Ventura County Flood Control District).

REMARKS.--Records fair. No regulation above station. Pumping for irrigation in valley 1.0 mi (1.6 km) above station. Sustained flow from city of Thousand Oaks reclamation plant.

COOPERATION.--Records were furnished by Ventura County Flood Control District; one discharge measurement was made and records reviewed by the Geological Survey.

AVERAGE DISCHARGE.--9 years, 22.3 ft<sup>3</sup>/s (0.632 m<sup>3</sup>/s), 16,160 acre-ft/yr (19.9 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,300 ft<sup>3</sup>/s (462 m<sup>3</sup>/s) Feb. 25, 1969, gage height, 8.50 ft (2.591 m); no flow at times in some years.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 500 ft<sup>3</sup>/s (14.2 m<sup>3</sup>/s) and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)	Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)
Jan. 3	0300	1600 45.3	3.45 1.052	Mar. 25	0815	625 17.7	2.43 0.741
Jan. 6	2345	*2200 62.3	3.80 1.158				

Minimum daily discharge, 0.65 ft<sup>3</sup>/s (0.018 m<sup>3</sup>/s) Aug. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	13	8.1	13	16	5.1	12	10	9.3	3.4	5.1	5.1
2	13	12	9.3	20	15	5.1	8.1	10	9.3	5.1	7.0	6.0
3	12	10	9.3	380	13	5.1	10	8.1	9.3	5.1	4.2	7.0
4	12	9.3	12	15	12	6.0	9.3	8.1	9.3	7.0	2.1	5.1
5	10	9.3	13	13	7.0	6.0	8.1	7.0	9.3	4.2	2.1	6.0
6	10	9.3	10	544	8.1	2.1	9.3	7.0	10	4.2	5.1	4.2
7	13	8.1	12	523	9.3	4.2	10	8.1	12	5.1	5.1	5.1
8	10	9.3	15	41	9.3	4.2	9.3	90	12	6.1	4.2	5.1
9	10	8.1	15	22	8.1	3.4	9.3	154	10	2.1	3.4	6.0
10	12	9.3	15	15	8.1	5.1	10	31	9.3	2.1	1.1	8.1
11	12	12	8.1	13	7.0	4.2	10	13	6.0	1.6	.65	6.0
12	15	26	9.3	12	8.1	6.0	13	13	5.1	2.1	5.1	7.0
13	15	15	13	12	8.1	8.1	13	12	5.1	1.1	5.1	5.1
14	13	13	12	12	8.1	8.1	13	10	5.1	1.1	2.1	4.2
15	12	12	12	12	7.0	10	13	10	5.1	2.1	5.1	4.2
16	8.1	10	10	12	7.0	43	13	10	3.4	2.1	6.0	5.1
17	9.3	7.0	9.3	13	7.0	44	13	12	2.7	4.2	106	7.0
18	10	7.0	12	13	7.0	15	13	12	4.2	7.0	51	8.1
19	10	9.3	10	12	6.0	10	10	12	5.1	7.0	13	9.3
20	8.1	10	10	15	6.0	8.1	7.0	12	6.0	8.1	10	9.3
21	9.3	12	12	12	6.0	9.3	6.0	13	6.0	5.1	10	9.3
22	12	10	10	13	8.1	9.3	7.0	15	4.2	6.0	9.3	10
23	12	10	10	13	12	8.1	8.1	13	2.7	8.1	9.3	12
24	13	10	10	12	16	8.1	7.0	12	2.7	9.3	9.3	10
25	13	10	12	12	10	190	9.3	15	5.1	15	9.3	8.1
26	13	10	10	12	6.0	24	10	7.0	8.1	5.1	9.3	8.1
27	12	9.3	10	13	2.7	15	9.3	7.0	8.1	1.6	9.3	10
28	10	8.1	13	20	4.2	13	10	6.0	3.4	2.1	8.1	10
29	12	9.3	12	26	---	12	10	9.3	2.1	1.6	8.1	12
30	13	10	35	16	---	12	9.3	9.3	2.7	2.7	7.0	13
31	15	---	21	16	---	12	---	9.3	---	3.4	6.0	---
TOTAL	366.8	317.7	379.4	1877	242.2	515.6	299.4	565.2	192.7	140.8	338.45	225.5
MEAN	11.8	10.6	12.2	60.5	8.65	16.6	9.98	18.2	6.42	4.54	10.9	7.52
MAX	18	26	35	544	16	190	13	154	12	15	106	13
MIN	8.1	7.0	8.1	12	2.7	2.1	6.0	6.0	2.1	1.1	.65	4.2
AC-FT	728	630	753	3720	480	1020	594	1120	382	279	671	447
CAL YR 1976 TOTAL	4456.45		MEAN 12.2	MAX 296	MIN .40	AC-FT 8840						
WTR YR 1977 TOTAL	5460.75		MEAN 15.0	MAX 544	MIN .65	AC-FT 10830						

11106550 CALLEGUAS CREEK AT CAMARILLO STATE HOSPITAL, CA--Continued

## WATER-QUALITY RECORDS

## PERIOD OF RECORD. --

WATER TEMPERATURES: October 1970 to current year.

SEDIMENT RECORDS: October 1968 to current year.

## PERIOD OF DAILY RECORD,--

SEDIMENT RECORDS: October 1968 to current year.

## EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 62,900 mg/l Jan. 25, 1969; minimum daily mean, no flow for many days.

SEDIMENT DISCHARGE: Maximum daily, 1,700,000 tons (1,540,000 tonnes) Jan. 25, 1969; minimum daily, 0 tons on many days during most years.

## EXTREMES FOR CURRENT YEAR. --

SEDIMENT CONCENTRATIONS: Maximum daily mean, 9,060 mg/l Jan. 3; minimum daily mean, 4 mg/l Sept. 23.

SEDIMENT DISCHARGE: Maximum daily, 25,900 tons (23,500 tonnes) Jan. 6; minimum daily, 0.03 tons (0.03 tonnes) Aug. 11.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
ONCE-DAILY

[illegible]

11106550 CALLEGUAS CREEK AT CAMARILLO STATE HOSPITAL, CA--Continued  
SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	OCTOBER			NOVEMBER			DECEMBER		
	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	18	43	2.1	13	63	2.2	8.1	94	2.1
2	13	34	1.2	12	58	1.9	9.3	81	2.0
3	12	26	.84	10	52	1.4	9.3	68	1.7
4	12	22	.71	9.3	47	1.2	12	56	1.8
5	10	27	.73	9.3	43	1.1	13	44	1.5
6	10	32	.86	9.3	39	.98	10	31	.84
7	13	38	1.3	8.1	36	.79	12	34	1.1
8	10	43	1.2	9.3	32	.80	15	38	1.5
9	10	43	1.2	8.1	28	.61	15	42	1.7
10	12	42	1.4	9.3	28	.70	15	45	1.8
11	12	42	1.4	12	28	.91	8.1	43	.94
12	15	42	1.7	26	98	12	9.3	41	1.0
13	15	42	1.7	15	72	2.9	13	39	1.4
14	13	41	1.4	13	72	2.5	12	37	1.2
15	12	41	1.3	12	72	2.3	12	35	1.1
16	8.1	43	.94	10	78	2.1	10	33	.89
17	9.3	44	1.1	7.0	83	1.6	9.3	31	.78
18	10	46	1.2	7.0	89	1.7	12	29	.94
19	10	47	1.3	9.3	90	2.3	10	27	.73
20	8.1	49	1.1	10	92	2.5	10	25	.68
21	9.3	45	1.1	12	93	3.0	12	25	.81
22	12	42	1.4	10	95	2.6	10	24	.65
23	12	38	1.2	10	96	2.6	10	24	.65
24	13	47	1.6	10	97	2.6	10	23	.62
25	13	56	2.0	10	99	2.7	12	23	.75
26	13	66	2.3	10	100	2.7	10	32	.86
27	12	75	2.4	9.3	102	2.6	10	41	1.1
28	10	84	2.3	8.1	103	2.3	13	50	1.8
29	12	79	2.6	9.3	104	2.6	12	59	1.9
30	13	73	2.6	10	106	2.9	35	228	37
31	15	68	2.8	---	---	---	21	105	7.0
TOTAL	366.8	---	46.98	317.7	---	69.09	379.4	---	78.84

DAY	JANUARY			FEBRUARY			MARCH		
	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	13	41	1.4	16	52	2.2	5.1	40	.55
2	20	122	23	15	47	1.9	5.1	49	.67
3	380	9060	13300	13	41	1.4	5.1	57	.78
4	15	85	3.4	12	36	1.2	6.0	65	1.1
5	13	62	3.2	7.0	37	.70	6.0	60	.97
6	544	8980	25900	8.1	38	.83	2.1	55	.31
7	523	5280	18300	9.3	39	.98	4.2	49	.56
8	41	240	27	9.3	40	1.0	4.2	44	.50
9	22	170	10	8.1	40	.87	3.4	39	.36
10	15	51	2.1	8.1	39	.85	5.1	34	.47
11	13	54	1.9	7.0	39	.74	4.2	42	.48
12	12	57	1.8	8.1	38	.83	6.0	50	.81
13	12	60	1.9	8.1	37	.81	8.1	57	1.2
14	12	63	2.0	8.1	37	.81	8.1	65	1.4
15	12	61	2.0	7.0	36	.68	10	73	2.0
16	12	59	1.9	7.0	38	.72	43	325	68
17	13	57	2.0	7.0	40	.76	44	380	65
18	13	55	1.9	7.0	41	.77	15	100	4.1
19	12	53	1.7	6.0	43	.70	10	84	2.3
20	15	55	2.2	6.0	45	.73	8.1	67	1.5
21	12	58	1.9	6.0	47	.76	9.3	50	1.3
22	13	60	2.1	8.1	55	1.2	9.3	34	.85
23	13	62	2.2	12	64	2.1	8.1	34	.74
24	12	64	2.1	16	45	1.9	8.1	34	.74
25	12	67	2.2	10	42	1.1	190	1960	1890
26	12	69	2.2	6.0	38	.62	24	300	19
27	13	71	2.5	2.7	35	.26	15	100	4.1
28	20	72	3.9	4.2	32	.36	13	66	2.3
29	26	67	4.7	---	---	---	12	32	1.0
30	16	62	2.7	---	---	---	12	36	1.2
31	16	57	2.5	---	---	---	12	36	1.2
TOTAL	1877	---	57618.4	242.2	---	27.78	515.6	---	2075.49

## CALLEGUAS CREEK BASIN

11106550 CALLEGUAS CREEK AT CAMARILLO STATE HOSPITAL, CA--Continued  
 SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	APRIL			MAY			JUNE		
	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	12	36	1.2	10	17	.46	9.3	43	1.1
2	8.1	36	.79	10	18	.49	9.3	41	1.0
3	10	36	.97	8.1	19	.42	9.3	39	.98
4	9.3	36	.90	8.1	19	.42	9.3	36	.90
5	8.1	47	1.0	7.0	20	.38	9.3	34	.85
6	9.3	58	1.5	7.0	21	.40	10	32	.86
7	10	68	1.8	8.1	1280	28	12	29	.94
8	9.3	79	2.0	90	2440	849	12	27	.87
9	9.3	90	2.3	154	458	1130	10	24	.65
10	10	78	2.1	31	150	48	9.3	22	.55
11	10	66	1.8	13	135	4.7	6.0	19	.31
12	13	55	1.9	13	119	4.2	5.1	19	.26
13	13	43	1.5	12	102	3.3	5.1	19	.26
14	13	31	1.1	10	85	2.3	5.1	19	.26
15	13	19	.67	10	68	1.8	5.1	19	.26
16	13	19	.67	10	51	1.4	3.4	19	.17
17	13	19	.67	12	34	1.1	2.7	20	.15
18	13	18	.63	12	35	1.1	4.2	21	.24
19	10	18	.49	12	36	1.2	5.1	22	.30
20	7.0	18	.34	12	37	1.2	6.0	23	.37
21	6.0	22	.36	13	38	1.3	6.0	24	.39
22	7.0	26	.49	15	39	1.6	4.2	23	.26
23	8.1	29	.63	13	42	1.5	2.7	22	.16
24	7.0	33	.62	12	46	1.5	2.7	21	.15
25	9.3	37	.93	15	50	2.0	5.1	20	.28
26	10	37	1.0	7.0	53	1.0	8.1	19	.42
27	9.3	37	.93	7.0	54	1.0	8.1	22	.48
28	10	37	1.0	6.0	52	.84	3.4	25	.23
29	10	28	.76	9.3	50	1.3	2.1	28	.16
30	9.3	18	.45	9.3	47	1.2	2.7	31	.23
31	---	---	---	9.3	45	1.1	---	---	---
TOTAL	299.4	---	31.50	565.2	---	2094.21	192.7	---	14.04

DAY	JULY			AUGUST			SEPTEMBER		
	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	3.4	22	.20	5.1	12	.17	5.1	14	.19
2	5.1	28	.39	7.0	13	.25	6.0	12	.19
3	5.1	33	.45	4.2	14	.16	7.0	12	.23
4	7.0	39	.74	2.1	16	.09	5.1	13	.18
5	4.2	44	.50	2.1	17	.10	6.0	13	.21
6	4.2	50	.57	5.1	18	.25	4.2	13	.15
7	5.1	48	.66	5.1	18	.25	5.1	14	.19
8	6.1	45	.74	4.2	18	.20	5.1	14	.19
9	2.1	43	.24	3.4	17	.16	6.0	13	.21
10	2.1	40	.23	1.1	17	.05	8.1	13	.28
11	1.6	38	.16	.65	17	.03	6.0	12	.19
12	2.1	34	.19	5.1	17	.23	7.0	12	.23
13	1.1	30	.09	5.1	18	.25	5.1	11	.15
14	1.1	26	.08	2.1	18	.10	4.2	16	.18
15	2.1	22	.12	5.1	19	.26	4.2	21	.24
16	2.1	18	.10	6.0	19	.31	5.1	16	.22
17	4.2	20	.23	106	861	638	7.0	12	.23
18	7.0	22	.42	51	92	22	8.1	7	.15
19	7.0	25	.47	13	28	.98	9.3	6	.15
20	8.1	27	.59	10	26	.70	9.3	6	.15
21	5.1	29	.40	10	24	.65	9.3	5	.13
22	6.0	29	.47	9.3	22	.55	10	5	.14
23	8.1	29	.63	9.3	20	.50	12	4	.13
24	9.3	28	.70	9.3	23	.58	10	11	.30
25	15	28	1.1	9.3	27	.68	8.1	17	.37
26	5.1	28	.39	9.3	30	.75	8.1	24	.52
27	1.6	28	.12	9.3	27	.68	10	18	.49
28	2.1	24	.14	8.1	24	.52	10	18	.49
29	1.6	20	.09	8.1	22	.48	12	18	.58
30	2.7	16	.12	7.0	19	.36	13	18	.63
31	3.4	12	.11	6.0	17	.28	---	---	---
TOTAL	140.8	---	11.44	338.45	---	670.57	225.5	---	7.69
YEAR	5460.75		62746.03						

11106550 CALLEGUAS CREEK AT CAMARILLO STATE HOSPITAL, CA--Continued

SUMMARY OF WATER AND SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

MONTH	WATER DISCHARGE CFS-DAYS	SUSPENDED SEDIMENT DISCHARGE TONS	BEDLOAD DISCHARGE TONS	TOTAL SEDIMENT DISCHARGE TONS
OCTOBER 1976	366.80	46.98	0	47
NOVEMBER ...	317.70	69.09	0	69
DECEMBER ...	379.40	78.84	0	79
JANUARY 1977	1877.00	57618.40	565	58200
FEBRUARY ...	242.20	27.78	0	28
MARCH .....	515.60	2075.49	14	2090
APRIL .....	299.40	31.50	0	31
MAY .....	565.20	2094.21	7	2100
JUNE .....	192.70	14.04	0	14
JULY .....	140.80	11.44	0	11
AUGUST .....	338.45	670.57	1	672
SEPTEMBER ..	225.50	7.69	0	8
TOTAL .....	5460.75	62746.03	587	63349

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	TEMPER- ATURE (DEG C)	INSTAN- TANEOUS DIS- CHARGE (CFS)	SUS- PENDED SEDI- MENT (MG/L)	SUS- PEN- DED SEDI- MENT DIS- CHARGE (T/DAY)	SUS. SED. FALL DIAM. % FINER THAN .002 MM	SUS. SED. FALL DIAM. % FINER THAN .004 MM	SUS. SED. FALL DIAM. % FINER THAN .008 MM	SUS. SED. FALL DIAM. % FINER THAN .016 MM
NOV									
15...	1800	19.5	10	72	1.9	--	--	--	--
30...	1645	14.0	8.1	93	2.0	--	--	--	--
DEC									
30...	1640	14.0	32	216	19	--	--	--	--
31...	0755	12.0	24	112	7.3	--	--	--	--
JAN									
06...	1640	9.0	256	3730	2580	59	67	83	93
06...	2000	6.5	318	2730	2340	53	63	72	88
07...	0830	7.0	598	2750	4440	56	65	71	87
08...	0900	7.5	41	243	27	77	88	92	97
15...	1645	20.5	7.0	36	.68	--	--	--	--
MAR									
16...	1640	14.0	123	1070	355	43	56	70	83
25...	0725	10.0	459	5330	6610	45	52	66	78
MAY									
08...	1400	17.0	77	594	123	45	56	68	83
09...	0730	14.0	244	2940	1940	59	72	86	96
09...	1635	16.0	130	1610	565	56	74	85	94
AUG									
17...	1545	22.5	174	2900	1360	48	60	69	87

## CALLEGUAS CREEK BASIN

11106550 CALLEGUAS CREEK AT CAMARILLO STATE HOSPITAL, CA--Continued

## PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	SUS. SED. FALL DIAM. % FINER THAN .031 MM	SUS. SED. FALL DIAM. % FINER THAN .062 MM	SUS. SED. SIEVE DIAM. % FINER THAN .062 MM	SUS. SED. FALL DIAM. % FINER THAN .125 MM	SUS. SED. SIEVE DIAM. % FINER THAN .125 MM	SUS. SED. FALL DIAM. % FINER THAN .250 MM	SUS. SED. SIEVE DIAM. % FINER THAN .250 MM	SUS. SED. FALL DIAM. % FINER THAN .500 MM	SUS. SED. SIEVE DIAM. % FINER THAN .500 MM
NOV									
15...	--	--	99	--	100	--	--	--	--
30...	--	--	99	--	100	--	--	--	--
DEC									
30...	--	--	96	--	98	--	99	--	100
31...	--	--	97	--	99	--	100	--	--
JAN									
06...	98	--	100	--	--	--	--	--	--
06...	97	--	100	--	--	--	--	--	--
07...	98	--	100	--	--	--	--	--	--
08...	99	--	99	--	100	--	--	--	--
15...	--	--	97	--	100	--	--	--	--
MAR									
16...	94	--	98	--	100	--	--	--	--
25...	87	91	--	96	--	99	--	100	--
MAY									
08...	93	--	99	--	100	--	--	--	--
09...	99	--	100	--	--	--	--	--	--
09...	95	--	100	--	--	--	--	--	--
AUG									
17...	97	98	--	99	--	100	--	--	--

## PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	TEMPER- ATURE (DEG C)	NUMBER OF SAM- PLING POINTS	INSTAN- TANEOUS DIS- CHARGE (CFS)	BED MAT. SIEVE DIAM. % FINER THAN .062 MM	BED MAT. SIEVE DIAM. % FINER THAN .125 MM	BED MAT. SIEVE DIAM. % FINER THAN .250 MM	BED MAT. SIEVE DIAM. % FINER THAN .500 MM	BED MAT. SIEVE DIAM. % FINER THAN 1.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 2.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 4.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 8.00 MM
SEP												
15...	1800	23.5	3	6.0	0	0	1	38	85	97	99	100

## 11107745 SANTA CLARA RIVER ABOVE RAILROAD STATION, NEAR LANG, CA

LOCATION.--Lat 34°25'52", long 118°21'22", in SE¼SW¼NW¼ sec.16, T.4 N., R.14 W., Los Angeles County, on downstream side of railroad bridge, 1.1 mi (1.8 km) east of Lang Railroad Station, 1.9 mi (3.1 km) downstream from Agua Dulce Canyon, and 5.2 mi (8.4 km) northeast of Solemint.

DRAINAGE AREA.--157 mi<sup>2</sup> (407 km<sup>2</sup>).

PERIOD OF RECORD.--October 1949 to September 1968, October 1969 to current year. Monthly discharge only for 1950-70 published in WDR CA-71-1. Daily discharge available in historical computer files.

GAGE.--Water-stage recorder. Altitude of gage is 1,750 ft (533 m), from topographic map. Prior to Apr. 3, 1970, at site 0.4 mi (0.6 km) downstream at different datum.

REMARKS.--Records poor. No regulation above station. Small diversions for irrigation and recreation.

COOPERATION.--Records were furnished by Los Angeles County Flood Control District.

AVERAGE DISCHARGE.--27 years (water years 1950-69, 1970-77), 4.50 ft<sup>3</sup>/s (0.127 m<sup>3</sup>/s), 3,260 acre-ft/yr (4.02 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,910 ft<sup>3</sup>/s (167 m<sup>3</sup>/s), estimated, Feb. 25, 1969; no flow at times in some years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 38 ft<sup>3</sup>/s (1.08 m<sup>3</sup>/s) May 8, gage height, 2.55 ft (0.777 m); no flow many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1				0	.10	.10	.40	.10	.30			
2				0	.10	.10	.60	.10	.30			
3				4.2	.10	.10	.80	.10	.20			
4				0	.10	.10	.80	.10	.20			
5				0	.10	.10	.70	.10	.20			
6				3.9	.10	.20	.60	.10	.20			
7				4.1	.10	.30	.50	.10	.20			
8				1.0	.10	.40	.40	9.1	.10			
9				.40	.10	.40	.40	8.8	.10			
10				.10	.10	.50	.40	3.2	.10			
11				0	.10	.50	.40	1.5	.10			
12				0	.10	.60	.40	1.0	.10			
13				0	0	1.1	.30	.50	.10			
14				0	.10	.40	.30	.50	.10			
15				0	.30	.40	.20	.40	.10			
16				0	.30	1.2	.20	.30	.10			
17				0	.30	.80	.30	.20	0			
18				0	.20	.50	.20	.10	0			
19				0	.20	.50	.20	.80	0			
20				0	.20	.70	.20	.10	0			
21				0	.20	.80	.20	.10	0			
22				0	.10	.40	.20	.20	0			
23				0	.10	.40	.10	.30	0			
24				0	.10	.40	.10	.30	0			
25				0	.10	.50	.10	.30	0			
26				0	.10	.40	.10	.30	0			
27				0	.10	.50	.10	.30	0			
28				0	.10	.40	.10	.30	0			
29				.10	---	.40	.10	.30	0			
30				.10	---	.40	.10	.30	0			
31		---		.10	---	.40	---	.30	---			---
TOTAL	0	0	0	14.00	3.70	14.00	9.50	30.20	2.50	0	0	0
MEAN	0	0	0	.45	.13	.45	.32	.97	.083	0	0	0
MAX	0	0	0	4.2	.30	1.2	.80	9.1	.30	0	0	0
MIN	0	0	0	0	0	.10	.10	.10	0	0	0	0
AC-FT	0	0	0	28	7.3	28	19	60	5.0	0	0	0
CAL YR 1976	TOTAL	130.74	MEAN .36	MAX	11	MIN 0	AC-FT 259					
WTR YR 1977	TOTAL	73.90	MEAN .20	MAX	9.1	MIN 0	AC-FT 147					

LOCATION.--Lat 34°24'55", long 118°32'34", in San Francisco Grant, Los Angeles County, on upstream side of Magic Mountain Parkway, 800 ft (244 m) west of San Fernando Road in Saugus.

PERIOD OF RECORD.--October 1975 to current year. September 1947 to September 1975 in files of Los Angeles County Flood Control District.

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

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge, 6,800 ft<sup>3</sup>/s (193 m<sup>3</sup>/s) Jan. 15, 1952, gage height unknown, from information by Los Angeles County Flood Control District.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,750 ft<sup>3</sup>/s (49.6 m<sup>3</sup>/s) May 8, gage height, 6.12 ft (1.865 m);  
no flow most of year.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	0		0		0			0	
2	0	0	0	57		0		0			0	
3	0	0	0	78		0		0			0	
4	0	0	0	.01		0		0			0	
5	0	0	0	13		0		0			0	
6	0	0	0	102		0		0			0	
7	0	0	0	74		0		0			0	
8	0	0	0	.30		0		157			0	
9	0	0	0	0		0		20			0	
10	0	0	0	0		0		0			0	
11	0	0	0	0		0		0			0	
12	0	44	0	0		0		0			0	
13	0	0	0	0		0		0			0	
14	0	0	0	0		0		0			0	
15	0	0	0	0		0		0			0	
16	0	0	0	0		4.8		0			0	
17	0	0	0	0		0		0			56	
18	0	0	0	0		0		0			0	
19	0	0	0	0		0		0			0	
20	0	0	0	0		0		0			0	
21	0	0	0	0		0		0			0	
22	0	0	0	0		0		0			0	
23	1.6	0	0	0		0		0			0	
24	0	0	0	0		0		0			0	
25	0	0	0	0		10		0			0	
26	0	0	0	0		0		0			0	
27	0	0	0	0		0		0			0	
28	0	0	0	0		0		0			0	
29	0	0	0	0	---	0		0			0	
30	0	0	5.5	0	---	0		0			0	
31	0	---	.10	0	---	0	---	0	---		0	---
TOTAL	1.6	44	5.60	324.31	0	14.8	0	177	0	0	56	0
MEAN	.052	1.47	.18	10.5	0	.48	0	5.71	0	0	1.81	0
MAX	1.6	44	5.5	102	0	10	0	157	0	0	56	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	3.2	87	11	643	0	29	0	351	0	0	111	0

CAL YR 1976	TOTAL 355.60	MEAN .97	MAX 105	MIN 0	AC-FT 705
WTR YR 1977	TOTAL 623.31	MEAN 1.71	MAX 157	MIN 0	AC-FT 1240



## 11108075 CASTAIC CREEK ONE MILE ABOVE FISH CREEK, NEAR CASTAIC, CA

LOCATION.--Lat 34°36'54", long 118°39'28", in SW¼NW¼NW¼ sec.14, T.6 N., R.17 W., Los Angeles County, on right bank 1.0 mi (1.6 km) upstream from wooden bridge crossing Castaic Creek, and 9 mi (14 km) northwest of Castaic.

DRAINAGE AREA.--36.0 mi<sup>2</sup> (93.2 km<sup>2</sup>).

PERIOD OF RECORD.--October 1976 to September 1977. October 1968 to September 1976 in files of California Department of Water Resources.

GAGE.--Water-stage recorder. Altitude of gage is 1,780 ft (543 m), from topographic map.

REMARKS.--Records good. Station is used to monitor natural inflow to Castaic Lake.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,000 ft<sup>3</sup>/s (312 m<sup>3</sup>/s) Jan. 19, 1969, gage height unknown, from information furnished by California Department of Water Resources.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 88 ft<sup>3</sup>/s (2.49 m<sup>3</sup>/s) May 8, gage height, 1.74 ft (0.530 m); no flow July 5 to Aug. 16 and Aug. 19 to Sept. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.04	.03	.08	1.1	.63	.41	.73	.15	.17	.01	0	
2	.04	.03	.08	3.8	.62	.40	.64	.13	.13	.01	0	
3	.04	.03	.08	9.0	.58	.41	.59	.11	.13	.01	0	
4	.04	.04	.08	.35	.57	.40	.53	.08	.11	.01	0	
5	.04	.04	.08	.36	.56	.39	.49	.11	.11	0	0	
6	.04	.04	.08	1.2	.53	.40	.44	.18	.11	0	0	
7	.04	.04	.08	3.5	.54	.40	.41	.23	.10	0	0	
8	.03	.04	.08	.79	.54	.39	.42	19	.10	0	0	
9	.03	.04	.09	.42	.52	.40	.43	17	.12	0	0	
10	.03	.05	.09	.39	.50	.37	.39	1.8	.12	0	0	
11	.03	.08	.09	.36	.49	.37	.37	1.3	.11	0	0	
12	.03	.87	.09	.36	.47	.36	.34	1.1	.09	0	0	
13	.03	.15	.08	.36	.48	.35	.32	.78	.09	0	0	
14	.03	.14	.08	.36	.46	.36	.29	.70	.09	0	0	
15	.03	.13	.08	.38	.45	.37	.29	.65	.08	0	0	
16	.03	.13	.09	.38	.41	1.2	.29	.61	.07	0	0	
17	.03	.13	.09	.39	.45	.72	.26	.52	.06	0	.09	
18	.03	.11	.09	.40	.44	.55	.21	.47	.06	0	.01	
19	.03	.11	.09	.49	.42	.51	.21	.41	.06	0	0	
20	.03	.11	.09	.60	.42	.46	.21	.36	.06	0	0	
21	.03	.10	.09	.63	.45	.45	.20	.31	.05	0	0	
22	2.6	.09	.10	.63	.42	.42	.20	.32	.04	0	0	
23	.20	.09	.11	.67	.48	.41	.19	.45	.03	0	0	
24	.11	.09	.11	.78	.47	.47	.17	.53	.03	0	0	
25	.07	.09	.11	.78	.43	6.6	.15	.46	.02	0	0	
26	.06	.08	.11	.72	.41	1.2	.14	.41	.02	0	0	
27	.05	.08	.11	.69	.41	.95	.11	.35	.01	0	0	
28	.04	.08	.11	.67	.42	.80	.11	.28	.01	0	0	
29	.04	.08	.10	.65	---	.76	.12	.24	.01	0	0	
30	.04	.08	.26	.62	---	1.0	.14	.19	.01	0	0	
31	.04	---	.32	.61	---	.82	---	.14	---	0	0	---
TOTAL	3.95	3.20	3.22	32.44	13.57	23.10	9.39	49.37	2.20	.04	.10	0
MEAN	.13	.11	.10	1.05	.48	.75	.31	1.59	.073	.001	.003	0
MAX	2.6	.87	.32	9.0	.63	6.6	.73	19	.17	.01	.09	0
MIN	.03	.03	.08	.35	.41	.35	.11	.08	.01	0	0	0
AC-FT	7.8	6.3	6.4	64	27	46	19	98	4.4	.08	.2	0
WTR YR 1977	TOTAL 140.58			MEAN .39	MAX	19	MIN 0	AC-FT 279				

## SANTA CLARA RIVER BASIN

11108080 FISH CREEK ABOVE CASTAIC CREEK, NEAR CASTAIC, CA

LOCATION.--Lat 34°36'09", long 118°39'43", in NW¼NE¼NE¼ sec.22, T.6 N., R.17 W., Los Angeles County, on right bank 700 ft (213 m) upstream from confluence of Fish Creek with Castaic Creek, and 8.1 mi (13 km) northwest of Castaic.

DRAINAGE AREA.--27.2 mi<sup>2</sup> (70.4 km<sup>2</sup>).

PERIOD OF RECORD.--October 1976 to September 1977. June 1965 to September 1976 in files of California Department of Water Resources.

GAGE.--Water-stage recorder. Altitude of gage is 1,620 ft (494 m), from topographic map.

REMARKS.--Records fair. Station is used to monitor natural inflow to Castaic Lake.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,986 ft<sup>3</sup>/s (170 m<sup>3</sup>/s) Feb. 24, 1969, gage height, 4.98 ft (1.518 m); no flow for periods in most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 21 ft<sup>3</sup>/s (0.59 m<sup>3</sup>/s) May 9, gage height, 1.13 ft (0.344 m); no flow most of year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1				0	.07	0	.04	0	.03			
2				3.3	.08	0	.02	0	.03			
3				5.4	.07	0	.03	0	.04			
4				.16	.07	0	.02	0	.03			
5				.14	.06	0	.03	0	.03			
6				.48	.04	0	.02	0	.03			
7				1.5	.04	0	.02	.01	.03			
8				.57	.04	0	.04	7.8	.04			
9				.32	.03	0	.06	14	.07			
10				.24	.03	0	.06	5.2	.07			
11				.16	.03	0	.07	3.0	.07			
12				.16	.02	0	.05	2.3	.05			
13				.16	.02	0	.04	1.5	.06			
14				.20	.01	0	.04	1.1	.05			
15				.23	.01	0	.05	.76	.04			
16				.26	.01	.18	.05	.60	.05			
17				.11	.01	.03	.05	.48	.04			
18				.07	0	.01	.04	.37	.03			
19				.06	0	0	.05	.30	.03			
20				.05	0	0	.05	.20	.03			
21				.04	0	0	.05	.14	.02			
22				.04	0	0	.05	.10	.01			
23				.05	0	0	.04	.24	0			
24				.06	.01	0	.03	.35	0			
25				.07	.01	.42	.03	.30	0			
26				.07	0	.07	.02	.23	0			
27				.07	0	.04	.02	.16	0			
28				.07	0	.02	.02	.12	0			
29				.07	---	.02	.02	.08	0			
30				.06	---	.08	.01	.05	0			
31		---		.07	---	.05	---	.04	---			---
TOTAL	0	0	0	14.24	.66	.92	1.12	39.43	.88	0	0	0
MEAN	0	0	0	.46	.024	.030	.037	1.27	.029	0	0	0
MAX	0	0	0	5.4	.08	.42	.07	14	.07	0	0	0
MIN	0	0	0	0	0	0	.01	0	0	0	0	0
AC-FT	0	0	0	28	1.3	1.8	2.2	78	1.7	0	0	0
WTR YR 1977	TOTAL 57.25	MEAN .16	MAX	14	MIN 0	AC-FT 114						

## 11108095 NECKTIE CANYON CREEK ABOVE CASTAIC CREEK, NEAR CASTAIC, CA

LOCATION.--Lat 34°33'38", long 118°36'51", in SW¼SW¼SE¼ sec.31, T.6 N., R.16 W., Los Angeles County, on right bank 4.7 mi (7.6 km) south on dirt road from Castaic Powerplant, and 5 mi (8 km) north of Castaic.

DRAINAGE AREA.--2.12 mi<sup>2</sup> (5.49 km<sup>2</sup>).

PERIOD OF RECORD.--October 1976 to September 1977. February 1967 to September 1976 in files of California Department of Water Resources.

GAGE.--Water-stage recorder. Altitude of gage is 1,560 ft (475 m), from topographic map.

REMARKS.--Records fair. Station is used to monitor natural inflow to Castaic Lake.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 633 ft<sup>3</sup>/s (18 m<sup>3</sup>/s) Jan. 25, 1969, gage height, 2.98 ft (0.908 m); no flow for periods in most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4.8 ft<sup>3</sup>/s (0.14 m<sup>3</sup>/s) Jan. 7, gage height, 1.24 ft (0.378 m); no flow most of year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1				0	.03	0	.02	0	.01			
2				.44	.02	0	.02	0	.01			
3				1.9	.02	0	.02	0	.01			
4				.13	.02	0	.02	0	0			
5				.11	.02	0	.02	0	0			
6				1.1	.01	0	.02	0	0			
7				2.7	.01	0	.01	0	0			
8				.87	.01	0	.01	.10	0			
9				.45	.01	0	.01	.82	0			
10				.30	.01	0	.01	.38	0			
11				.21	.01	0	.01	.15	0			
12				.16	.01	0	.01	.10	0			
13				.13	.01	0	.01	.06	0			
14				.11	.01	0	.01	.05	0			
15				.10	.01	0	.01	.04	0			
16				.09	.01	0	.01	.03	0			
17				.08	.01	0	.01	.03	0			
18				.07	0	0	0	.02	0			
19				.07	0	0	0	.02	0			
20				.06	0	0	0	.02	0			
21				.05	0	0	0	.02	0			
22				.05	0	0	0	.02	0			
23				.04	0	0	0	.02	0			
24				.04	0	0	0	.02	0			
25				.04	0	.15	0	.01	0			
26				.04	0	.01	0	.01	0			
27				.03	0	.02	0	.01	0			
28				.03	0	.01	0	.01	0			
29				.03	---	.01	0	.01	0			
30				.03	---	.02	0	.01	0			
31		---		.03	---	.02	---	.01	---			---
TOTAL	0	0	0	9.49	.23	.24	.23	1.97	.03	0	0	0
MEAN	0	0	0	.31	.008	.008	.008	.064	.001	0	0	0
MAX	0	0	0	2.7	.03	.05	.02	.82	.01	0	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	0	0	19	.5	.5	.5	3.9	.06	0	0	0
WTR YR 1977	TOTAL	12.19	MEAN	.033	MAX	2.7	MIN	0	AC-FT	24		

## SANTA CLARA RIVER BASIN

11108130 ELIZABETH LAKE CANYON CREEK ABOVE CASTAIC LAKE, NEAR CASTAIC, CA

LOCATION.--Lat 34°34'34", long 118°33'22", in NW¼SE¼SE¼ sec.27, T.6 N., R.16 W., Los Angeles County, on left bank 0.4 mi (0.6 km) northeast of Elizabeth Lake Guard Station, on Elizabeth Lake Canyon Road, and 0.5 mi (0.8 km) northeast of Castaic on Lake Hughes Road.

DRAINAGE AREA.--43.7 mi<sup>2</sup> (113.2 km<sup>2</sup>), excluding 18.1 mi<sup>2</sup> (46.9 km<sup>2</sup>) of noncontributing area in Elizabeth and Hughes Lake basins.

PERIOD OF RECORD.--October 1976 to September 1977. January 1962 to September 1976 in files of California Department of Water Resources.

GAGE.--Water-stage recorder. Altitude of gage is 1,680 ft (510 m), from topographic map.

REMARKS.--Records fair. Station is used to monitor inflow into Castaic Lake.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,500 ft<sup>3</sup>/s (212 m<sup>3</sup>/s), estimated, Jan. 25, 1969, by California Department of Water Resources; no flow at times in some years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 58 ft<sup>3</sup>/s (1.64 m<sup>3</sup>/s) May 8, gage height, 2.23 ft (0.680 m); no flow Aug. 9-16, 18-31.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.40	.23	.32	.86	1.6	1.3	1.8	.84	.68	.16	.04	.12
2	.40	.21	.32	7.3	1.5	1.3	1.7	.86	.60	.15	.03	.11
3	.40	.20	.32	9.1	1.4	1.2	1.5	.92	.58	.14	.02	.10
4	.40	.19	.33	1.8	1.5	1.2	1.4	.95	.52	.14	.02	.09
5	.30	.19	.34	1.8	1.5	1.2	1.4	1.1	.43	.13	.02	.08
6	.30	.20	.35	3.3	1.4	1.2	1.3	1.2	.43	.13	.01	.10
7	.30	.21	.34	5.2	1.4	1.2	1.2	1.4	.46	.13	.01	.10
8	.30	.22	.34	2.5	1.4	1.1	1.2	1.9	.48	.13	.01	.10
9	.30	.22	.35	1.7	1.4	1.1	1.3	1.9	.48	.12	0	.09
10	.30	.23	.34	1.4	1.3	1.0	1.2	8.7	.57	.12	0	.09
11	.20	.26	.33	1.5	1.3	.92	1.2	7.4	.59	.11	0	.09
12	.20	.36	.35	1.7	1.2	.95	1.2	6.6	.55	.11	0	.08
13	.20	.35	.34	1.8	1.2	.91	1.2	5.0	.53	.10	0	.08
14	.20	.33	.35	1.8	1.2	.66	1.2	4.2	.52	.09	0	.08
15	.20	.31	.36	1.8	1.2	.54	1.3	3.6	.50	.09	0	.07
16	.20	.28	.36	1.7	1.1	.89	1.2	3.2	.46	.08	0	.07
17	.20	.24	.35	1.6	1.1	.79	1.2	2.7	.40	.07	.01	.07
18	.20	.25	.37	1.7	1.1	.74	1.1	2.3	.37	.06	0	.07
19	.20	.24	.41	1.7	1.0	.90	.93	2.0	.37	.06	0	.06
20	.20	.26	.39	1.8	1.1	.94	.88	1.7	.37	.06	0	.06
21	.30	.26	.42	1.8	1.2	1.1	.82	1.5	.38	.06	0	.04
22	.30	.27	.42	1.7	1.2	1.2	.83	1.4	.37	.06	0	.04
23	.30	.27	.44	1.7	1.5	1.3	.81	2.0	.34	.05	0	.03
24	.30	.26	.42	1.6	1.6	1.6	.79	2.4	.30	.05	0	.03
25	.30	.27	.44	1.6	1.4	4.8	.77	2.2	.27	.05	0	.04
26	.30	.29	.41	1.5	1.3	3.0	.76	1.8	.24	.05	0	.04
27	.30	.30	.45	1.6	1.3	2.2	.76	1.5	.22	.04	0	.05
28	.30	.32	.46	1.5	1.3	1.8	.78	1.3	.20	.04	0	.05
29	.30	.33	.45	1.6	---	1.6	.79	1.2	.18	.04	0	.05
30	.30	.32	1.1	1.5	---	1.9	.78	1.0	.17	.04	0	.05
31	.30	---	.98	1.5	---	2.0	---	.87	---	.03	0	---
TOTAL	6.70	7.87	12.95	69.66	36.7	42.54	33.30	109.84	12.56	2.69	.17	2.13
MEAN	.28	.26	.42	2.25	1.31	1.37	1.11	3.54	.42	.087	.006	.071
MAX	.40	.36	1.1	9.1	1.6	4.8	1.8	19	.68	.16	.04	.12
MIN	.20	.19	.32	.86	1.0	.54	.76	.84	.17	.03	0	.03
AC-FT	17	16	26	138	73	84	66	218	25	5.3	.3	4.2

WTR YR 1977 TOTAL 339.11 MEAN .93 MAX 19 MIN 0 AC-FT 673

## 11108135 CASTAIC LAGOON PARSHALL FLUME NEAR CASTAIC, CA

LOCATION.--Lat 34°30'37", long 118°36'28", in NE¼NE¼NE¼ sec.24, T.5 N., R.17 W., Los Angeles County, at southeast end of lagoon under Lake Hughes Road bridge, 0.5 mi (0.8 km) east of Castaic on Lake Hughes Road.

DRAINAGE AREA.--138 mi<sup>2</sup> (357 km<sup>2</sup>) excluding 18.1 mi<sup>2</sup> (46.9 km<sup>2</sup>) non-contributing area in Elizabeth Canyon Creek basin.

PERIOD OF RECORD.--October 1976 to September 1977. June 1972 to September 1976 in files of California Department of Water Resources.

GAGE.--Water-stage recorder and Parshall flume. Altitude of gage is 1,140 ft (347 m), from topographic map.

REMARKS.--No flow since July 29, 1975. Station is used to monitor outflow from Castaic Lake.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,575 ft<sup>3</sup>/s (73 m<sup>3</sup>/s) Feb. 11, 1973, gage height, 3.47 ft (1.058 m); no flow for long periods in each year.

EXTREMES FOR CURRENT YEAR.--No flow since July 29, 1975.

## SANTA CLARA RIVER BASIN

11108500 SANTA CLARA RIVER AT LOS ANGELES-VENTURA COUNTY LINE, CA

LOCATION.--Lat 34°23'59", long 118°42'14", in San Francisco Grant, Ventura County, on downstream end of old diversion weir on right bank, on private road 0.2 mi (0.3 km) south of Highway 126, 0.8 mi (1.3 km) west of Los Angeles-Ventura County line, and 6.4 mi (10.3 km) west of intersection of Highway 126 and Interstate 5.

DRAINAGE AREA.--644 mi<sup>2</sup> (1,668 km<sup>2</sup>).

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1952 to current year.

GAGE.--Water-stage recorder. Datum of gage is 794.93 ft (242.295 m) above mean sea level.

REMARKS.--Records good. Base flow affected by pumping from wells along stream for irrigation. Flow partly regulated since January 1972 by Castaic Reservoir, capacity, 324,000 acre-ft (399 hm<sup>3</sup>). Imported water from California Water Project stored and released at Castaic Dam.

AVERAGE DISCHARGE.--25 years, 35.0 ft<sup>3</sup>/s (0.991 m<sup>3</sup>/s), 25,360 acre-ft/yr (31.3 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 68,800 ft<sup>3</sup>/s (1,950 m<sup>3</sup>/s) Jan. 25, 1969, gage height, 19.01 ft (5.794 m), from rating curve extended above 9,200 ft<sup>3</sup>/s (261 m<sup>3</sup>/s) on basis of field estimate of maximum flow; no flow at times in some years.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 750 ft<sup>3</sup>/s (21.2 m<sup>3</sup>/s) and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)
Jan. 3	0600	1380 39.1	6.06 1.847
May 8	1845	*1880 53.2	7.12 2.170

Minimum daily discharge, 2.5 ft<sup>3</sup>/s (0.071 m<sup>3</sup>/s) Aug. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	9.0	14	34	21	15	19	13	14	6.4	3.2	9.7
2	14	8.2	14	33	20	15	20	14	14	6.4	3.0	10
3	15	7.4	14	328	18	15	19	13	12	6.7	2.8	9.7
4	16	7.4	14	34	18	15	18	13	11	7.8	2.7	9.3
5	15	7.8	14	29	18	15	18	13	11	8.4	2.5	9.0
6	15	8.2	13	214	18	16	18	13	11	7.8	2.8	8.1
7	15	8.6	13	397	18	16	15	13	11	7.5	2.7	7.5
8	13	7.8	13	54	18	16	14	238	10	6.7	2.8	6.9
9	12	7.8	14	40	18	16	14	113	10	6.4	2.8	6.9
10	11	8.6	14	36	17	15	15	42	9.3	6.1	2.8	6.9
11	11	10	14	30	16	15	15	33	9.3	6.1	3.0	7.2
12	11	50	16	27	15	15	13	29	8.4	6.1	3.3	7.8
13	11	19	14	26	15	17	12	26	7.9	5.6	3.2	7.5
14	11	16	14	25	15	17	12	24	7.8	5.9	2.8	7.5
15	11	14	13	24	13	17	11	24	7.5	5.4	2.7	7.5
16	11	10	13	24	13	24	11	22	7.2	4.9	2.8	7.2
17	11	10	13	24	13	20	11	21	6.9	4.7	4.3	7.2
18	11	9.8	13	24	12	18	12	20	6.7	4.5	19	6.9
19	11	10	14	23	13	18	10	19	6.9	4.5	8.4	6.9
20	11	10	14	23	14	18	10	18	7.2	4.5	7.2	6.4
21	10	10	14	23	14	18	10	18	7.2	4.5	7.2	6.1
22	10	10	13	23	14	18	11	18	7.2	4.5	7.2	6.1
23	11	11	13	22	15	19	10	19	7.2	4.1	7.8	6.1
24	11	12	13	22	14	18	11	20	7.2	4.1	8.4	6.4
25	11	12	13	22	13	41	12	19	7.2	4.1	8.7	7.2
26	11	13	13	21	13	20	11	19	6.9	3.7	8.7	7.8
27	10	13	14	21	14	18	12	18	6.9	3.3	8.7	7.8
28	9.8	12	14	21	15	20	12	18	7.2	3.2	9.0	8.1
29	9.4	13	14	21	---	19	13	17	7.2	3.2	8.7	8.1
30	9.4	13	29	20	---	19	13	17	6.9	3.2	9.0	7.8
31	9.4	---	29	21	---	20	---	15	---	3.0	9.3	---
TOTAL	361.0	358.6	454	1686	435	563	402	919	260.2	163.3	216.2	227.6
MEAN	11.6	12.0	14.6	54.4	15.5	18.2	13.4	29.6	8.67	5.27	6.97	7.59
MAX	16	50	29	397	21	41	20	238	14	8.4	43	10
MIN	9.4	7.4	13	20	12	15	10	13	6.7	3.0	2.5	6.1
AC-FT	716	711	901	3340	863	1120	797	1820	516	324	429	451
CAL YR 1976	TOTAL	5123.1	MEAN 14.0	MAX 216	MIN 1.9	AC-FT 10160						
WTR YR 1977	TOTAL	6045.9	MEAN 16.6	MAX 397	MIN 2.5	AC-FT 11990						

11108500 SANTA CLARA RIVER AT LOS ANGELES-VENTURA COUNTY LINE, CA--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1969 to current year.  
 CHEMICAL ANALYSIS: Water years 1969, 1972 to current year.  
 WATER TEMPERATURES: Water years 1969 to current year.  
 SEDIMENT RECORDS: Water years 1969 to current year.

PERIOD OF DAILY RECORD.--  
 SPECIFIC CONDUCTANCE: June 1969 to current year.  
 pH: June to September 1969.  
 CHLORIDE: June to September 1969.  
 WATER TEMPERATURES: October 1968 to current year.  
 SEDIMENT RECORDS: October 1968 to current year.

INSTRUMENTATION.--Water-quality monitor from June to September 1969. Specific conductance recorder since June 1969.

REMARKS.--The letter "A" following a date indicates chemical-quality data furnished by California Department of Water Resources. Missing specific conductance data due to probe or recorder malfunction.

EXTREMES FOR PERIOD OF DAILY RECORD.--  
 SPECIFIC CONDUCTANCE: Maximum, 3,600 micromhos Mar. 31, 1971; minimum recorded, 465 micromhos Dec. 6, 1976.  
 SEDIMENT CONCENTRATIONS: Maximum daily mean, 27,400 mg/l Nov. 29, 1970; minimum daily mean, 4 mg/l Sept. 9, 1976.  
 SEDIMENT DISCHARGE: Maximum daily, 3,300,000 tons (2,990,000 tonnes), estimated, Feb. 25, 1969; minimum daily, 0.03 ton (0.03 tonne) Sept. 9, 1976.

EXTREMES FOR CURRENT YEAR.--  
 SPECIFIC CONDUCTANCE: Maximum recorded, 2,770 micromhos Aug. 17; minimum recorded, 465 micromhos Dec. 6.  
 SEDIMENT CONCENTRATIONS: Maximum daily mean, 2,930 mg/l May 8; minimum daily mean, 5 mg/l Oct. 26-30.  
 SEDIMENT DISCHARGE: Maximum daily, 4,970 tons (4,510 tonnes) May 8; minimum daily, 0.13 ton (0.12 tonnes) Oct. 28-30.

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	DIS- SOLVED SOLIDS (TONS PER AC-FT)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	HARD- NESS (CA.MG) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLOR- IDE (CL) (MG/L)
NOV												
30...A	1530	51	1700	8.1	16.7	1250	1.70	3	8.9	660	540	87
FEB												
03...A	1105	12	1860	8.1	16.7	1330	1.81	2	9.9	700	560	86
APR												
20...A	0930	11	1900	8.0	18.3	1420	1.93	2	9.8	700	590	91
JUL												
25...A	1420	4.3	2030	8.2	23.9	1640	2.23	2	7.2	760	690	100

11108500 SANTA CLARA RIVER AT LOS ANGELES-VENTURA COUNTY LINE, CA--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	1790	1740	1770	1820	1740	1780	---	---	---	1670	1540	1630
2	1800	1750	1780	1830	1730	1790	1770	1730	1750	2140	1500	1670
3	1790	1750	1770	1830	1750	1800	1790	1730	1770	---	---	---
4	---	---	---	1910	1760	1840	1790	1750	1770	1780	1720	1760
5	1790	1740	1770	1940	1800	1880	1800	1740	1770	1800	1660	1750
6	1790	1740	1770	1940	1820	1890	1790	1740	1770	1720	465	1080
7	1790	1710	1760	1930	1830	1880	1820	1770	1800	1440	595	919
8	1790	1710	1750	1910	1810	1870	1860	1790	1820	1770	1460	1680
9	1800	1700	1760	1890	1800	1850	1860	1810	1840	1810	1750	1780
10	1800	1700	1750	1880	1780	1830	---	---	---	1830	1710	1780
11	1790	1700	1740	1850	1750	1820	---	---	---	1830	1730	1780
12	1770	1670	1730	1870	775	1590	---	---	---	1900	1790	1830
13	1770	1670	1740	1870	1710	1830	---	---	---	1840	1760	1800
14	1770	1660	1730	1860	1780	1830	---	---	---	1820	1770	1790
15	1770	1700	1740	1860	1790	1830	---	---	---	1810	1760	1780
16	---	---	---	1870	1790	1830	---	---	---	1790	1740	1770
17	1770	1700	1750	1850	1760	1820	---	---	---	1770	1700	1740
18	1780	1710	1740	1860	1810	1840	---	---	---	1750	1720	1740
19	---	---	---	---	---	---	---	---	---	1770	1720	1750
20	1770	1710	1740	---	---	---	---	---	---	1760	1720	1740
21	1790	1700	1750	---	---	---	---	---	---	1750	1720	1740
22	1810	1710	1770	---	---	---	---	---	---	1760	1720	1740
23	1810	1750	1790	---	---	---	1730	1710	1720	1770	1730	1750
24	1830	1730	1780	---	---	---	1750	1700	1720	1770	1720	1740
25	1840	1750	1790	---	---	---	1740	1690	1710	1760	1680	1730
26	1870	1750	1800	---	---	---	1730	1690	1710	1810	1720	1770
27	1820	1740	1770	---	---	---	1730	1680	1700	1830	1750	1790
28	---	---	---	---	---	---	1730	1670	1700	1790	1750	1780
29	---	---	---	---	---	---	1710	1660	1680	1810	1740	1770
30	1830	1750	1800	---	---	---	1680	1280	1590	1810	1740	1770
31	1820	1730	1770	---	---	---	1670	1590	1640	1790	1720	1760
MONTH	1870	1660	1760	---	---	---	---	---	---	2140	465	1700

DAY	FEBRUARY			MARCH			APRIL			MAY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	1770	1720	1750	1880	1830	1850	1750	1710	1720	1790	1730	1770
2	1780	1720	1750	1860	1820	1840	1730	1670	1710	1780	1740	1760
3	1780	1730	1750	1840	1740	1790	1750	1710	1730	1780	1750	1770
4	1780	1720	1750	1790	1750	1770	1750	1690	1720	1790	1760	1780
5	1780	1730	1750	1790	1740	1770	1780	1720	1750	1790	1750	1770
6	1750	1720	1740	1780	1720	1750	1800	1750	1780	1790	1770	1780
7	1750	1710	1730	1750	1700	1730	1810	1780	1800	1790	1750	1780
8	1760	1710	1740	1780	1720	1750	1810	1780	1800	---	---	---
9	1750	1720	1740	1790	1740	1770	1820	1750	1790	---	---	---
10	1770	1720	1750	1790	1740	1770	1790	1730	1760	---	---	---
11	1770	1710	1740	1790	1750	1770	1780	1730	1750	1790	1740	1760
12	1760	1710	1730	1810	1740	1770	1810	1750	1790	1770	1740	1750
13	1760	1720	1740	1770	1730	1750	1830	1760	1810	1760	1730	1740
14	1750	1700	1730	1780	1730	1760	1870	1800	1830	1770	1730	1750
15	1760	1720	1750	1800	1730	1760	1880	1810	1850	1760	1740	1750
16	1770	1730	1760	1750	1210	1630	1870	1840	1860	1770	1740	1760
17	1770	1730	1750	1740	1650	1710	1880	1850	1870	1780	1740	1760
18	1780	1740	1760	1750	1700	1730	1880	1810	1850	1770	1730	1750
19	1770	1740	1750	1750	1710	1730	1920	1820	1880	1830	1730	1750
20	1770	1730	1750	1750	1710	1730	1920	1850	1890	1760	1710	1740
21	1750	1720	1730	1780	1680	1730	1920	1840	1870	---	---	---
22	1770	1710	1750	1790	1710	1740	1880	1790	1830	---	---	---
23	1760	1730	1750	1760	1740	1750	1860	1790	1840	---	---	---
24	1840	1750	1800	1780	1690	1750	1850	1790	1830	---	---	---
25	1840	1780	1810	1720	743	1420	1840	1770	1810	---	---	---
26	1870	1800	1830	1740	1690	1710	1830	1770	1810	---	---	---
27	1870	1810	1850	1750	1700	1720	1820	1800	1810	---	---	---
28	1900	1820	1850	1750	1680	1710	1830	1800	1810	---	---	---
29	---	---	---	1750	1710	1730	1830	1780	1800	---	---	---
30	---	---	---	1760	1710	1730	1810	1740	1790	---	---	---
31	---	---	---	1750	1700	1730	---	---	---	---	---	---
MONTH	1900	1700	1760	1880	743	1740	1920	1670	1800	---	---	---



## SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
ONCE-DAILY

[illegible]

## SANTA CLARA RIVER BASIN

11108500 SANTA CLARA RIVER AT LOS ANGELES-VENTURA COUNTY LINE, CA--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

OCTOBER					NOVEMBER			DECEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	
1	13	45	1.6	9.0	6	.15	14	38	1.4	
2	14	45	1.7	8.2	7	.15	14	41	1.5	
3	15	45	1.8	7.4	8	.16	14	45	1.7	
4	16	45	1.9	7.4	10	.20	14	48	1.8	
5	15	45	1.8	7.8	11	.23	14	48	1.8	
6	15	45	1.8	8.2	12	.27	13	48	1.7	
7	15	35	1.4	8.6	13	.30	13	48	1.7	
8	13	24	.84	7.8	14	.29	13	720	25	
9	12	14	.45	7.8	15	.32	14	450	17	
10	11	12	.36	8.6	15	.35	14	314	12	
11	11	10	.30	10	15	.41	14	242	9.1	
12	11	9	.27	50	701	428	16	171	7.4	
13	11	9	.27	19	220	11	14	99	3.7	
14	11	8	.24	16	90	3.9	14	27	1.0	
15	11	7	.21	14	60	2.3	13	25	.88	
16	11	7	.21	10	37	1.0	13	24	.84	
17	11	7	.21	10	31	.84	13	22	.77	
18	11	8	.24	9.8	25	.66	13	20	.70	
19	11	8	.24	10	20	.54	14	19	.72	
20	11	8	.24	10	31	.84	14	18	.68	
21	10	7	.19	10	30	.81	14	17	.64	
22	10	6	.16	10	29	.78	13	18	.63	
23	11	6	.18	11	28	.83	13	18	.63	
24	11	6	.18	12	27	.87	13	18	.63	
25	11	6	.18	12	25	.81	13	48	1.7	
26	11	5	.15	13	24	.84	13	38	1.3	
27	10	5	.14	13	22	.77	14	29	1.1	
28	9.8	5	.13	12	26	.84	14	19	.72	
29	9.4	5	.13	13	30	1.1	14	18	.68	
30	9.4	5	.13	13	34	1.2	29	130	15	
31	9.4	6	.15	---	---	---	29	180	14	
TOTAL	361.0	---	17.80	358.6	---	460.76	454	---	128.42	
JANUARY					FEBRUARY			MARCH		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	
1	34	135	12	21	51	2.9	15	47	1.9	
2	33	154	20	20	44	2.4	15	52	2.1	
3	328	2100	4000	18	37	1.8	15	35	1.4	
4	34	120	11	18	30	1.5	15	13	.53	
5	29	120	9.4	18	23	1.1	15	14	.57	
6	214	2520	2730	18	35	1.7	16	15	.65	
7	397	2220	3160	18	47	2.3	16	16	.69	
8	54	220	32	18	58	2.8	16	17	.73	
9	40	190	21	18	53	2.6	16	18	.78	
10	36	133	13	17	48	2.2	15	15	.61	
11	30	58	4.7	16	43	1.9	15	14	.57	
12	27	25	1.8	15	41	1.7	15	11	.45	
13	26	35	2.5	15	38	1.5	17	11	.50	
14	25	46	3.1	15	35	1.4	17	12	.55	
15	24	46	3.0	13	32	1.1	17	12	.55	
16	24	46	3.0	13	28	.98	24	74	6.0	
17	24	46	3.0	13	24	.84	20	66	3.6	
18	24	160	10	12	20	.65	18	57	2.8	
19	23	136	8.4	13	23	.81	18	48	2.3	
20	23	113	7.0	14	26	.98	18	39	1.9	
21	23	89	5.5	14	29	1.1	18	30	1.5	
22	23	65	4.0	14	32	1.2	18	21	1.0	
23	22	72	4.3	15	35	1.4	19	21	1.1	
24	22	80	4.8	14	39	1.5	18	21	1.0	
25	22	87	5.2	13	42	1.5	41	41	206	
26	21	60	3.4	13	43	1.5	20	42	2.3	
27	21	52	2.9	14	44	1.7	18	53	2.6	
28	21	44	2.5	15	46	1.9	20	121	6.5	
29	21	46	2.6	---	---	---	19	72	3.7	
30	20	48	2.6	---	---	---	19	60	3.1	
31	21	49	2.8	---	---	---	20	48	2.6	
TOTAL	1686	---	10095.5	435	---	44.96	563	---	260.58	

11108500 SANTA CLARA RIVER AT LOS ANGELES-VENTURA COUNTY LINE, CA--Continued

## SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	APRIL				MAY			JUNE		
	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	
1	19	36	1.8	13	36	1.3	14	31	1.2	
2	20	25	1.4	14	44	1.7	14	37	1.4	
3	19	37	1.9	13	46	1.6	12	43	1.4	
4	18	49	2.4	13	48	1.7	11	56	1.7	
5	18	62	3.0	13	50	1.8	11	69	2.0	
6	18	47	2.3	13	52	1.8	11	83	2.5	
7	15	32	1.3	13	55	1.9	11	83	2.5	
8	14	16	.60	238	2930	4970	10	125	3.4	
9	14	16	.60	113	2500	943	10	166	4.5	
10	15	16	.65	42	220	25	9.3	166	4.2	
11	15	17	.69	33	77	6.9	9.3	202	5.1	
12	13	17	.60	29	67	5.2	8.4	238	5.4	
13	12	19	.62	26	55	3.9	7.9	273	5.8	
14	12	22	.71	24	44	2.9	7.8	309	6.5	
15	11	24	.71	24	38	2.5	7.5	276	5.6	
16	11	26	.77	22	32	1.9	7.2	242	4.7	
17	11	27	.80	21	26	1.5	6.9	209	3.9	
18	12	28	.91	20	28	1.5	6.7	175	3.2	
19	10	29	.78	19	31	1.6	6.9	171	3.2	
20	10	29	.78	18	33	1.6	7.2	167	3.2	
21	10	29	.78	18	30	1.5	7.2	163	3.2	
22	11	92	2.7	18	28	1.4	7.2	159	3.1	
23	10	73	2.0	19	26	1.3	7.2	156	3.0	
24	11	55	1.6	20	24	1.3	7.2	152	3.0	
25	12	36	1.2	19	22	1.1	7.2	149	2.9	
26	11	17	.50	19	22	1.1	6.9	138	2.6	
27	12	19	.62	18	21	1.0	6.9	126	2.3	
28	12	20	.65	18	21	1.0	7.2	115	2.2	
29	13	21	.74	17	23	1.1	7.2	117	2.3	
30	13	29	1.0	17	25	1.1	6.9	119	2.2	
31	---	---	---	15	26	1.1	---	---	---	
TOTAL	402	---	35.11	919	---	5992.3	260.2	---	98.2	
DAY	JULY				AUGUST			SEPTEMBER		
	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	
1	6.4	122	2.1	3.2	137	1.2	9.7	141	3.7	
2	6.4	122	2.1	3.0	144	1.2	10	153	4.1	
3	6.7	123	2.2	2.8	119	.90	9.7	141	3.7	
4	7.8	124	2.6	2.7	94	.69	9.3	130	3.3	
5	8.4	124	2.8	2.5	69	.47	9.0	118	2.9	
6	7.8	120	2.5	2.8	78	.59	8.1	107	2.3	
7	7.5	116	2.3	2.7	87	.63	7.5	95	1.9	
8	6.7	112	2.0	2.8	96	.73	6.9	114	2.1	
9	6.4	112	1.9	2.8	105	.79	6.9	132	2.5	
10	6.1	113	1.9	2.8	114	.86	6.9	151	2.8	
11	6.1	113	1.9	3.0	98	.79	7.2	169	3.3	
12	6.1	113	1.9	3.3	81	.72	7.8	149	3.1	
13	5.6	143	2.2	3.2	64	.55	7.5	129	2.6	
14	5.9	173	2.8	2.8	64	.48	7.5	109	2.2	
15	5.4	203	3.0	2.7	64	.47	7.5	51	1.0	
16	4.9	217	2.9	2.8	64	.48	7.2	61	1.2	
17	4.7	230	2.9	43	944	190	7.2	71	1.4	
18	4.5	444	5.4	19	110	5.6	6.9	69	1.3	
19	4.5	257	3.1	8.4	100	2.3	6.9	66	1.2	
20	4.5	217	2.6	7.2	80	1.6	6.4	64	1.1	
21	4.5	177	2.2	7.2	81	1.6	6.1	49	.81	
22	4.5	138	1.7	7.2	81	1.6	6.1	34	.56	
23	4.1	145	1.6	7.8	82	1.7	6.1	19	.31	
24	4.1	151	1.7	8.4	106	2.4	6.4	22	.38	
25	4.1	158	1.7	8.7	130	3.1	7.2	25	.49	
26	3.7	164	1.6	8.7	154	3.6	7.8	28	.59	
27	3.3	148	1.3	8.7	145	3.4	7.8	30	.63	
28	3.2	132	1.1	9.0	136	3.3	8.1	28	.61	
29	3.2	116	1.0	8.7	128	3.0	8.1	25	.55	
30	3.2	123	1.1	9.0	119	2.9	7.8	22	.46	
31	3.0	130	1.1	9.3	130	3.3	---	---	---	
TOTAL	163.3	---	67.2	216.2	---	240.95	227.6	---	53.09	
YEAR	6045.9		17494.87							

## SANTA CLARA RIVER BASIN

11108500 SANTA CLARA RIVER AT LOS ANGELES-VENTURA COUNTY LINE, CA--Continued

## SUMMARY OF WATER AND SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

MONTH	WATER DISCHARGE CFS-DAYS	SUSPENDED SEDIMENT DISCHARGE TONS	BEDLOAD DISCHARGE TONS	TOTAL SEDIMENT DISCHARGE TONS
OCTOBER 1976	361.00	17.80	213	231
NOVEMBER ...	358.60	460.76	194	655
DECEMBER ...	454.00	128.42	215	343
JANUARY 1977	1686.00	10095.50	4730	14800
FEBRUARY ...	435.00	44.96	194	239
MARCH .....	563.00	260.58	215	476
APRIL .....	402.00	35.11	209	244
MAY .....	919.00	5992.30	1520	7510
JUNE .....	260.20	98.20	143	241
JULY .....	163.30	67.20	55	122
AUGUST .....	216.20	240.95	85	326
SEPTEMBER ..	227.60	53.09	120	173
TOTAL .....	6045.90	17494.87	7893	25360

## PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	TEMPER- ATURE (DEG C)	INSTAN- TANEOUS DIS- CHARGE (CFS)	SUS- PENDED SEDI- MENT DIS- CHARGE (MG/L)	SUS- PENDED SEDI- MENT DIS- CHARGE (T/DAY)	SUS. SED. FALL DIAM. % FINER THAN .002 MM	SUS. SED. FALL DIAM. % FINER THAN .004 MM	SUS. SED. FALL DIAM. % FINER THAN .008 MM	SUS. SED. FALL DIAM. % FINER THAN .016 MM	SUS. SED. FALL DIAM. % FINER THAN .031 MM	SUS. SED. FALL DIAM. % FINER THAN .062 MM
NOV											
12...	1420	14.5	221	2810	1680	54	76	91	99	99	--
DEC											
08...	1110	12.0	13	2100	74	35	47	66	87	97	--
JAN											
03...	0730	7.0	907	6130	15000	45	62	80	91	95	96
03...	1055	--	105	2740	777	37	50	68	80	89	--
03...	1320	12.5	78	871	183	40	52	65	75	83	--
06...	1715	7.0	418	6250	7050	42	59	77	90	96	98
07...	0710	6.0	621	2750	4610	41	55	71	85	94	97
07...	1140	7.0	603	3450	5620	30	39	49	61	66	68
07...	1400	8.0	287	1930	1500	38	51	67	81	90	94
07...	1700	7.5	192	1910	990	36	50	65	79	89	94
MAR											
25...	0700	9.0	53	4080	584	33	45	69	84	92	94
MAY											
09...	0730	11.0	180	4770	2320	42	57	75	87	94	95
09...	1305	13.5	106	2710	776	50	70	86	95	97	97
09...	1730	15.0	77	841	175	46	62	76	86	95	--
10...	1500	20.0	37	107	11	--	--	--	--	94	--
JUN											
13...	1320	24.0	8.0	257	5.6	36	49	65	78	85	--
AUG											
17...	1820	23.0	88	1680	399	45	64	84	94	97	--

11108500 SANTA CLARA RIVER AT LOS ANGELES-VENTURA COUNTY LINE, CA--Continued

## PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	SUS. SED. SIEVE DIAM. % FINER THAN .062 MM	SUS. SED. FALL DIAM. % FINER THAN .125 MM	SUS. SED. SIEVE DIAM. % FINER THAN .125 MM	SUS. SED. FALL DIAM. % FINER THAN .250 MM	SUS. SED. SIEVE DIAM. % FINER THAN .250 MM	SUS. SED. FALL DIAM. % FINER THAN .500 MM	SUS. SED. SIEVE DIAM. % FINER THAN .500 MM	SUS. SED. FALL DIAM. % FINER THAN 1.00 MM	SUS. SED. SIEVE DIAM. % FINER THAN 1.00 MM	SUS. SED. SIEVE DIAM. % FINER THAN 2.00 MM
NOV 12...	99	--	99	--	99	--	100	--	--	--
DEC 08...	98	--	98	--	98	--	100	--	--	--
JAN 03...	--	97	--	98	--	100	--	--	--	--
03...	91	--	92	--	94	--	97	--	99	100
03...	88	--	89	--	91	--	97	--	100	--
06...	--	99	--	100	--	--	--	--	--	--
07...	--	98	--	100	--	--	--	--	--	--
07...	--	69	--	72	--	91	--	100	--	--
07...	--	96	--	99	--	100	--	--	--	--
07...	--	96	--	99	--	100	--	--	--	--
MAR 25...	--	95	--	98	--	100	--	--	--	--
MAY 09...	--	95	--	96	--	98	--	100	--	--
09...	--	98	--	99	--	100	--	--	--	--
09...	99	--	100	--	--	--	--	--	--	--
10...	97	--	99	--	100	--	--	--	--	--
JUN 13...	88	--	93	--	94	--	98	--	100	--
AUG 17...	99	--	99	--	99	--	100	--	--	--

## PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	TEMPER- ATURE (DEG C)	INSTAN- TANEOUS DIS- CHARGE (CFS)	NUMBER OF SAM- PLING POINTS	BED MAT. SIEVE DIAM. % FINER THAN .062 MM	BED MAT. SIEVE DIAM. % FINER THAN .125 MM	BED MAT. SIEVE DIAM. % FINER THAN .250 MM	BED MAT. SIEVE DIAM. % FINER THAN .500 MM
SEP 15	1200	20.5	7.8	5	5	7	11	21

DATE	BED MAT. SIEVE DIAM. % FINER THAN 1.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 2.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 4.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 8.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 16.0 MM	BED MAT. SIEVE DIAM. % FINER THAN 32.0 MM	BED MAT. SIEVE DIAM. % FINER THAN 64.0 MM
SEP 15...	35	46	58	72	90	98	20

## SANTA CLARA RIVER BASIN

11109100 PIRU CREEK BELOW THORN MEADOWS, NEAR STAUFFER, CA

LOCATION.--Lat 34°38'21", long 119°05'43", in SW¼NE¼SW¼ sec.3, T.6 N., R.21 W., Ventura County, on right bank  
1.3 mi (2.1 km) northeast of Thorn Meadows, and 8 mi (13 km) southwest of Stauffer.

DRAINAGE AREA.--22.5 mi<sup>2</sup> (58.3 km<sup>2</sup>).

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

GAGE.--Water-stage recorder. Altitude of gage is 4,280 ft (1,305 m), from topographic map.

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

COOPERATION.--Ten discharge measurements were furnished by Ventura County Flood Control District.

AVERAGE DISCHARGE.--6 years, 4.71 ft<sup>3</sup>/s (0.133 m<sup>3</sup>/s), 3,410 acre-ft/yr (4.20 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,660 ft<sup>3</sup>/s (47.0 m<sup>3</sup>/s) Feb. 11, 1973, gage height, 5.37 ft (1.637 m), from floodmarks, from rating curve extended above 60 ft<sup>3</sup>/s (1.70 m<sup>3</sup>/s) on basis of slope-area measurement of maximum flow; no flow many days in most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 168 ft<sup>3</sup>/s (4.76 m<sup>3</sup>/s) Jan. 3 (0015 hrs), gage height, 2.70 ft (0.823 m), no other peak above base of 50 ft<sup>3</sup>/s (1.42 m<sup>3</sup>/s); no flow July 27 to Aug. 16, Aug. 20 to Sept. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.44	.06	.17	.48	2.5	1.9	2.6	.73	1.5	.06	0	
2	.29	.06	.17	6.6	2.4	1.6	2.5	.73	1.5	.06	0	
3	.17	.06	.17	28	2.2	1.7	2.3	.60	1.3	.06	0	
4	.11	.06	.17	3.8	2.0	1.8	2.2	.50	1.0	.06	0	
5	.09	.06	.17	2.1	2.1	1.7	2.0	.48	.75	.06	0	
6	.09	.06	.17	1.1	2.1	1.6	2.5	.52	.75	.06	0	
7	.09	.06	.17	1.3	2.1	1.7	2.8	1.2	.75	.06	0	
8	.08	.06	.17	1.8	2.2	1.8	2.5	7.6	.63	.06	0	
9	.06	.06	.17	1.9	2.2	1.8	2.2	18	.44	.04	0	
10	.06	.06	.17	1.7	2.1	1.7	2.1	24	.44	.04	0	
11	.06	.07	.17	2.3	2.0	1.7	2.1	16	.36	.04	0	
12	.06	.47	.17	2.3	2.0	1.8	1.9	14	.36	.04	0	
13	.06	.48	.17	2.1	2.1	1.8	1.8	15	.29	.04	0	
14	.06	.36	.17	2.3	2.1	1.7	1.7	18	.29	.04	0	
15	.06	.36	.17	2.3	2.1	1.7	1.5	21	.22	.04	0	
16	.06	.36	.17	2.3	2.1	3.1	1.3	15	.22	.04	0	
17	.06	.36	.21	2.8	2.3	3.4	1.1	8.2	.22	.06	.01	
18	.06	.36	.18	3.0	2.3	3.0	1.0	6.2	.22	.06	.02	
19	.06	.36	.20	3.6	2.2	2.5	.95	5.1	.22	.06	.01	
20	.06	.29	.19	4.4	2.2	2.3	.91	4.7	.22	.04	0	
21	.06	.28	.19	6.2	2.3	2.3	.88	4.0	.22	.04	0	
22	.06	.28	.17	6.5	2.7	2.3	.88	4.0	.17	.03	0	
23	.06	.28	.18	5.7	2.7	2.2	.83	4.0	.17	.01	0	
24	.06	.28	.22	4.8	2.6	2.6	.71	3.7	.17	.01	0	
25	.06	.24	.17	4.1	2.1	3.8	.67	3.4	.13	.01	0	
26	.06	.22	.20	3.6	2.0	3.7	.70	3.1	.09	.01	0	
27	.06	.22	.20	3.5	1.9	4.3	.78	2.8	.06	0	0	
28	.06	.18	.20	3.6	1.9	4.9	.71	2.6	.06	0	0	
29	.06	.17	.20	3.2	---	3.7	.63	2.3	.06	0	0	
30	.06	.17	.20	2.9	---	3.4	.63	2.3	.06	0	0	
31	.06	---	.55	2.9	---	3.0	---	2.1	---	0	0	---
TOTAL	2.74	6.39	5.98	123.18	61.5	76.5	45.38	211.86	12.87	1.13	.04	0
MEAN	.088	.21	.19	3.97	2.20	2.47	1.51	6.83	.43	.037	.001	0
MAX	.44	.48	.55	28	2.7	4.9	2.8	24	1.5	.06	.02	0
MIN	.06	.06	.17	.48	1.9	1.6	.63	.48	.06	0	0	0
AC-FT	5.4	13	12	244	122	152	90	420	26	2.2	.08	0

CAL YR 1976 TOTAL 828.74 MEAN 2.26 MAX 173 MIN 0 AC-FT 1640  
WTR YR 1977 TOTAL 547.57 MEAN 1.50 MAX 28 MIN 0 AC-FT 1090

LOCATION.--Lat 34°45'56", long 119°07'12", in SW¼NE¼SE¼ sec.20, T.8 N., R.21 W., Ventura County, on right bank 3.3 mi (5.3 km) upstream from Lockwood Creek, and 3.3 mi (5.3 km) northwest of Stauffer.

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

GAGE.--Water-stage recorder. Altitude of gage is 5,630 ft (1,716 m), revised, from topographic map.

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

COOPERATION.--Fourteen discharge measurements were furnished by Ventura County Flood Control District.

AVERAGE DISCHARGE.--6 years, 0.49 ft<sup>3</sup>/s (0.014 m<sup>3</sup>/s), 355 acre-ft/yr (438,000 m<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 697 ft<sup>3</sup>/s (19.7 m<sup>3</sup>/s) Sept. 6, 1976, gage height, 4.80 ft (1.463 m), from rating curve extended above 2.9 ft<sup>3</sup>/s (0.082 m<sup>3</sup>/s) on basis of slope-area measurement of maximum flow; no flow for some days in each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6.2 ft<sup>3</sup>/s (0.18 m<sup>3</sup>/s) May 10, gage height, 2.48 ft (0.756 m), maximum gage height, 2.77 ft (0.844 m) Jan. 6 (backwater from ice); no peak above base of 100 ft<sup>3</sup>/s (2.83 m<sup>3</sup>/s); no flow July 28 to Aug. 16, Aug. 19 to Sept. 30.

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.03	.07	.05	.08	.24	.28	.39	.16	.34	.11	0	
2	.03	.07	.05	.21	.20	.36	.39	.16	.26	.09	0	
3	.03	.07	.05	.96	.20	.30	.39	.16	.23	.09	0	
4	.03	.06	.06	.21	.20	.29	.39	.16	.23	.08	0	
5	.03	.06	.06	.20	.20	.31	.39	.16	.23	.08	0	
6	.04	.06	.06	.37	.20	.28	.39	.16	.23	.06	0	
7	.04	.06	.08	.24	.20	.28	.39	.16	.20	.06	0	
8	.04	.06	.08	.24	.20	.28	.39	.52	.20	.04	0	
9	.05	.08	.08	.24	.20	.28	.39	.52	.20	.04	0	
10	.05	.10	.08	.24	.20	.25	.34	2.2	.20	.03	0	
11	.05	.18	.08	.28	.20	.22	.34	1.7	.20	.03	0	
12	.05	.27	.08	.20	.20	.20	.34	1.1	.20	.01	0	
13	.06	.06	.08	.28	.20	.20	.28	.78	.17	.01	0	
14	.06	.22	.08	.28	.20	.20	.28	.64	.17	.01	0	
15	.06	.09	.08	.28	.20	.20	.28	.64	.17	.01	0	
16	.06	.09	.08	.28	.20	.56	.24	.64	.15	.01	0	
17	.06	.09	.08	.28	.20	.46	.24	.64	.15	.01	.04	
18	.06	.10	.08	.28	.20	.34	.24	.64	.15	.01	.01	
19	.06	.08	.08	.24	.20	.34	.20	.64	.15	.01	0	
20	.06	.08	.08	.24	.20	.34	.20	.58	.17	.01	0	
21	.06	.08	.08	.33	.20	.34	.20	.58	.17	.01	0	
22	.10	.08	.08	.46	.20	.34	.20	.52	.17	.01	0	
23	.07	.08	.08	.34	.39	.28	.20	.52	.15	.01	0	
24	.07	.08	.08	.28	.39	.28	.20	.52	.13	.01	0	
25	.07	.08	.08	.28	.28	.41	.16	.47	.13	.01	0	
26	.07	.08	.08	.24	.28	.39	.16	.38	.11	.01	0	
27	.07	.06	.08	.24	.28	.28	.16	.38	.11	.01	0	
28	.07	.06	.08	.24	.28	.34	.16	.38	.11	0	0	
29	.07	.06	.08	.24	---	.34	.16	.38	.11	0	0	
30	.07	.08	.15	.24	---	.34	.16	.34	.11	0	0	
31	.07	---	.12	.24	---	.43	---	.34	---	0	0	---
TOTAL	1.74	2.69	2.44	8.84	6.34	9.74	8.25	17.17	5.30	.87	.05	0
MEAN	.056	.090	.079	.29	.23	.31	.28	.55	.18	.028	.002	0
MAX	.10	.27	.15	.96	.39	.56	.39	2.2	.34	.11	.04	0
MIN	.03	.06	.05	.08	.20	.20	.16	.16	.11	0	0	0
AC-FT	3.5	5.3	4.8	18	13	19	16	34	11	1.7	.10	0
CAL YR 1976	TOTAL	128.99	MEAN .35	MAX	13	MIN 0	AC-FT 256					
WTR YR 1977	TOTAL	63.43	MEAN .17	MAX	2.2	MIN 0	AC-FT 126					

## SANTA CLARA RIVER BASIN

11109250 LOCKWOOD CREEK AT GORGE, NEAR STAUFFER, CA

LOCATION.--Lat 34°43'57", long 119°02'14", in SE¼SW¼SE¼ sec.31, T.8 N., R.20 W., Ventura County, on right bank 2.1 mi (3.4 km) southeast of Stauffer, and 3.8 mi (6.1 km) upstream from Piru Creek.

DRAINAGE AREA.--58.7 mi<sup>2</sup> (152.0 km<sup>2</sup>).

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

REVISED RECORDS.--WDR CA-74-1: 1973 (M)

GAGE.--Water-stage recorder. Altitude of gage is 4,790 ft (1,460 m), from topographic map.

REMARKS.--Records fair.

COOPERATION.--Sixteen discharge measurements furnished by Ventura County Flood Control District.

AVERAGE DISCHARGE.--6 years, 4.35 ft<sup>3</sup>/s (0.123 m<sup>3</sup>/s), 3,150 acre-ft/yr (3.88 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 906 ft<sup>3</sup>/s (25.7 m<sup>3</sup>/s) Aug. 2, 1974, gage height, 4.92 ft (1.500 m), from rating curve extended above 34 ft<sup>3</sup>/s (0.96 m<sup>3</sup>/s) on basis of slope-area measurement at gage height 4.92 ft (1.500 m); minimum daily, 0.90 ft<sup>3</sup>/s (0.025 m<sup>3</sup>/s) Aug. 5, 9-16, Aug. 19 to Sept. 30, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 26 ft<sup>3</sup>/s (0.74 m<sup>3</sup>/s) May 10, gage height, 2.66 ft (0.811 m), no peak above base of 100 ft<sup>3</sup>/s (2.83 m<sup>3</sup>/s); minimum daily, 0.90 ft<sup>3</sup>/s (0.025 m<sup>3</sup>/s) Aug. 5, 9-16, Aug. 19 to Sept. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.5	1.5	2.0	2.3	2.6	2.3	2.3	1.7	2.0	1.3	1.1	.90
2	1.5	1.5	2.0	2.8	2.6	2.3	2.3	1.7	2.0	1.3	1.1	.90
3	1.5	1.5	2.0	4.6	2.6	2.3	2.3	1.7	2.0	1.3	1.1	.90
4	1.5	1.5	2.3	2.9	2.6	2.3	2.3	1.7	2.0	1.3	1.1	.90
5	1.7	1.5	2.3	2.6	2.6	2.3	2.3	1.7	2.0	1.5	.90	.90
6	1.7	1.5	2.3	2.9	2.6	2.3	2.3	1.7	1.7	1.3	1.1	.90
7	1.7	1.5	2.3	2.3	2.6	2.3	2.6	2.0	1.7	1.3	1.1	.90
8	2.0	1.5	2.3	2.2	2.6	2.3	2.9	2.9	1.7	1.5	1.1	.90
9	1.5	1.5	2.3	2.2	2.6	2.3	3.2	6.4	1.7	1.5	.90	.90
10	1.3	1.5	2.3	2.2	2.6	2.3	2.9	9.0	1.7	1.5	.90	.90
11	1.5	1.5	2.3	2.2	2.6	2.3	2.9	9.2	1.7	1.3	.90	.90
12	1.5	2.6	2.3	2.2	2.6	2.3	2.9	9.0	1.7	1.3	.90	.90
13	1.5	2.6	2.3	2.2	2.3	2.0	3.2	7.4	1.7	1.3	.90	.90
14	1.5	2.3	2.3	2.2	2.3	2.0	2.9	4.9	1.7	1.3	.90	.90
15	1.5	2.3	2.3	2.2	2.3	2.0	3.2	2.6	1.7	1.5	.90	.90
16	1.5	2.3	2.3	2.2	2.3	2.5	2.9	2.6	1.5	1.5	.90	.90
17	1.5	2.3	2.3	2.3	2.3	2.9	2.6	2.6	1.5	1.5	1.3	.90
18	1.5	2.3	2.3	2.5	2.3	2.6	2.3	2.6	1.5	1.3	1.1	.90
19	1.5	2.3	2.3	2.6	2.3	2.6	2.3	2.3	1.5	1.3	.90	.90
20	1.7	2.3	2.3	2.6	2.3	2.3	2.3	2.0	1.5	1.3	.90	.90
21	2.0	2.3	2.3	2.9	2.3	2.3	2.3	2.0	1.5	1.1	.90	.90
22	2.9	2.3	2.3	3.6	2.6	2.0	2.6	2.0	1.5	1.1	.90	.90
23	2.0	2.3	2.3	4.0	2.6	2.0	2.3	2.0	1.5	1.1	.90	.90
24	2.0	2.3	2.3	4.0	2.6	2.3	2.3	2.0	1.5	1.3	.90	.90
25	1.7	2.3	2.3	3.6	2.3	2.6	2.0	2.0	1.5	1.1	.90	.90
26	1.7	2.3	2.3	2.9	2.3	2.9	2.0	2.0	1.5	1.1	.90	.90
27	1.5	2.3	2.3	2.9	2.3	4.0	2.0	2.0	1.5	1.1	.90	.90
28	1.5	2.0	2.3	2.6	2.3	3.6	2.0	2.0	1.5	1.1	.90	.90
29	1.5	2.0	2.3	2.6	---	2.6	1.7	2.0	1.5	1.1	.90	.90
30	1.5	2.0	2.3	2.6	---	2.3	1.7	2.0	1.3	1.1	.90	.90
31	1.5	---	2.3	2.6	---	2.3	---	2.0	---	1.1	.90	---
TOTAL	50.9	59.9	70.4	84.5	68.9	75.4	73.8	97.7	49.3	39.7	29.90	27.00
MEAN	1.64	2.00	2.27	2.73	2.46	2.43	2.46	3.15	1.64	1.28	.96	.90
MAX	2.9	2.6	2.3	4.6	2.6	4.0	3.2	9.2	2.0	1.5	1.3	.90
MIN	1.3	1.5	2.0	2.2	2.3	2.0	1.7	1.7	1.3	1.1	.90	.90
AC-FT	101	119	140	168	137	150	146	194	98	79	59	54
CAL YR 1976	TOTAL	1144.60	MEAN 3.13	MAX	86	MIN 1.2	AC-FT	2270				
WTR YR 1977	TOTAL	727.40	MEAN 1.99	MAX	9.2	MIN .90	AC-FT	1440				



## 11109375 PIRU CREEK BELOW BUCK CREEK, NEAR PYRAMID LAKE, CA

LOCATION.--Lat 34°39'58", long 118°49'24", in NW¼SE¼SE¼ sec.30, T.7 N., R.18 W., Ventura County, on left bank 300 ft (91 m) downstream from the confluence of Piru Creek and Buck Creek, and 2.3 mi (3.7 km) southeast of U.S. Forest Service Hardluck Campground.

DRAINAGE AREA.--198 mi<sup>2</sup> (513 km<sup>2</sup>).

PERIOD OF RECORD.--October 1976 to September 1977. February 1975 to September 1976 in files of California Department of Water Resources.

GAGE.--Water-stage recorder. Altitude of gage is 2,700 ft (823 m), from topographic map.

REMARKS.--Records fair. Station is used to monitor inflow into Pyramid Lake.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,545 ft<sup>3</sup>/s (43.7 m<sup>3</sup>/s) Mar. 8, 1975, gage height, 5.39 ft (1.643 m); no flow Sept. 6-26, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 72 ft<sup>3</sup>/s (2.04 m<sup>3</sup>/s) Jan. 3, gage height, 2.65 ft (0.808 m); no flow Sept. 6-26.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.7	2.7	3.2	5.9	15	9.0	11	4.5	9.0	.82	.02	.02
2	3.4	2.6	3.2	8.3	13	8.8	10	4.4	8.5	.76	.02	.01
3	2.9	2.6	3.2	30	13	8.5	9.4	4.2	8.0	.76	.02	.01
4	2.5	2.6	3.2	17	11	8.7	9.0	3.9	7.4	.84	.02	.01
5	2.2	2.6	3.3	10	11	8.3	8.8	3.8	6.9	.94	.02	.01
6	2.0	2.7	3.2	11	11	8.1	8.7	3.9	6.9	.81	.02	0
7	1.8	2.8	3.1	11	11	8.0	8.9	4.7	6.6	.62	.02	0
8	1.7	2.9	3.3	8.8	11	7.9	9.3	4.5	6.0	.48	.02	0
9	1.7	3.0	3.5	7.3	11	7.7	9.5	80	6.3	.41	.02	0
10	1.7	3.1	3.4	9.3	11	7.6	9.3	56	6.1	.35	.02	0
11	1.8	3.3	3.3	10	10	7.3	8.9	48	5.7	.33	.02	0
12	1.6	7.1	3.3	11	10	7.3	8.5	35	5.4	.35	.03	0
13	1.5	5.4	3.3	11	10	7.4	8.2	32	5.1	.32	.03	0
14	1.5	4.2	3.4	11	10	7.3	8.0	32	4.8	.27	.03	0
15	1.6	4.1	3.4	11	10	7.1	7.6	39	4.5	.22	.03	0
16	1.6	3.9	3.5	12	10	13	7.3	43	4.5	.21	.03	0
17	1.7	3.7	3.3	13	10	12	7.0	35	4.1	.19	.46	0
18	1.8	3.6	3.3	15	10	12	6.7	29	3.9	.16	.18	0
19	1.8	3.5	3.5	18	10	11	6.5	27	4.2	.14	.10	0
20	1.9	3.5	3.6	19	10	10	6.3	24	3.5	.10	.07	0
21	2.3	3.5	3.1	22	10	9.0	6.0	23	2.9	.13	.05	0
22	3.5	3.4	3.0	28	11	8.7	5.8	21	2.4	.06	.04	0
23	4.1	3.4	3.3	27	12	8.7	5.6	20	2.4	.05	.04	0
24	3.2	3.3	3.2	25	12	9.0	5.3	20	2.1	.05	.03	0
25	2.9	3.4	3.3	23	11	17	5.0	18	1.8	.05	.03	0
26	2.7	3.4	3.4	20	10	15	4.9	17	1.7	.05	.03	0
27	2.7	3.2	3.7	18	9.3	14	4.9	15	1.6	.04	.03	.02
28	2.7	2.8	3.4	18	9.1	14	4.8	13	1.3	.05	.03	.02
29	2.7	3.0	3.8	17	---	14	4.5	12	1.1	.07	.02	.03
30	2.7	3.4	4.3	16	---	13	4.5	11	1.0	.06	.02	.05
31	2.7	---	5.2	14	---	12	---	9.8	---	.04	.02	---
TOTAL	73.6	102.7	106.2	477.6	302.4	311.4	220.2	734.2	135.7	9.73	1.52	.18
MEAN	2.37	3.42	3.43	15.4	10.8	10.0	7.34	23.7	4.52	.31	.049	.006
MAX	4.7	7.1	5.2	30	15	17	11	80	9.0	.94	.46	.05
MIN	1.5	2.6	3.0	5.9	9.1	7.1	4.5	3.8	1.0	.04	.02	0
AC-FT	146	204	211	947	600	618	437	1460	269	19	3.0	.4

WTR YR 1977 TOTAL 2475.43 MEAN 6.78 MAX 80 MIN 0 AC-FT 4910

## 11109395 CANADA DE LOS ALAMOS ABOVE PYRAMID LAKE, CA

LOCATION.--Lat 34°41'26", long 118°47'21", in NE¼NW¼NE¼ sec.21, T.7 N., R.18 W., Los Angeles County, on left bank, next to old Highway 99, 1.2 mi (1.9 km) south of Hungry Valley Road off ramp from Interstate Highway 5, 0.3 mi (0.5 km) above Pyramid Landing on Pyramid Lake.

DRAINAGE AREA.--61.9 mi<sup>2</sup> (160 km<sup>2</sup>).

PERIOD OF RECORD.--October 1976 to September 1977. March 1965 to September 1976 in files of California Department of Water Resources.

GAGE.--Water-stage recorder. Altitude of gage is 2,800 ft (850 m), from topographic map.

REMARKS.--Records fair. Station is used to monitor natural inflow into Pyramid Lake.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,200 ft<sup>3</sup>/s (34.0 m<sup>3</sup>/s), estimated, Jan. 21, 1969, by California Department of Water Resources; minimum daily, 0.30 ft<sup>3</sup>/s (0.008 m<sup>3</sup>/s) May 10, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 18 ft<sup>3</sup>/s (0.51 m<sup>3</sup>/s) Aug. 17, gage height, 1.89 ft (0.576 m); minimum daily, 0.30 ft<sup>3</sup>/s (0.008 m<sup>3</sup>/s) May 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.5	1.7	2.0	2.0	2.3	1.8	1.7	1.3	1.3	1.0	1.1	1.2
2	1.5	1.6	2.0	2.6	2.2	1.8	1.8	1.0	1.2	1.0	1.1	1.2
3	1.5	1.6	2.0	5.0	2.2	1.8	1.7	.84	1.2	1.1	1.1	1.2
4	1.4	1.6	2.0	2.1	2.2	1.7	1.7	.68	1.3	1.1	1.1	1.1
5	1.4	1.6	2.1	2.7	2.2	1.7	1.7	.58	1.4	1.1	1.1	1.1
6	1.3	1.7	2.0	4.5	2.2	1.7	1.7	.49	1.4	1.1	1.1	1.1
7	1.3	1.8	1.8	5.4	2.0	1.7	1.7	.51	1.2	1.0	1.1	1.1
8	1.2	1.8	1.8	3.5	1.8	1.7	1.7	3.2	1.2	1.0	1.1	1.1
9	1.2	1.8	1.8	2.6	1.8	1.7	1.8	1.1	1.4	1.0	1.1	1.1
10	1.2	1.8	1.8	2.5	1.7	1.7	1.8	.30	1.3	1.0	1.1	1.1
11	1.2	1.9	1.8	2.4	1.7	1.7	1.8	.31	1.3	1.0	1.1	1.2
12	1.2	2.0	1.8	2.3	1.7	1.7	1.8	.34	1.3	1.0	1.1	1.2
13	1.1	1.8	1.9	2.3	1.6	1.7	1.7	.34	1.3	1.0	1.1	1.2
14	1.1	1.8	2.0	2.2	1.6	1.7	1.5	.39	1.3	1.0	1.1	1.2
15	1.1	1.8	2.0	2.2	1.6	1.7	1.4	.42	1.2	.99	1.1	1.3
16	1.2	1.7	2.0	2.2	1.6	3.0	1.4	.45	1.2	.99	1.9	1.4
17	1.2	1.7	2.0	2.3	1.6	1.9	1.4	.48	1.2	.95	6.0	1.4
18	1.3	1.7	1.9	2.5	1.5	1.7	1.4	.53	1.2	.96	1.3	1.4
19	1.3	1.7	1.9	2.5	1.6	1.7	1.4	.59	1.2	.96	1.3	1.4
20	1.3	1.7	1.9	2.5	1.6	1.7	1.4	.62	1.2	.95	1.2	1.4
21	1.7	1.7	1.8	2.5	1.7	1.6	1.2	.66	1.2	.92	1.1	1.3
22	2.3	1.7	1.8	2.5	1.6	1.6	1.0	.74	1.1	.89	1.1	1.3
23	1.5	1.7	1.8	2.5	1.7	1.6	1.1	.92	1.1	.87	1.2	1.4
24	1.5	1.7	1.8	2.4	1.7	1.8	1.2	1.0	1.1	.88	1.2	1.3
25	1.5	1.8	1.8	2.4	1.7	3.0	1.3	1.0	1.0	.88	1.2	1.4
26	1.5	1.9	1.8	2.3	1.7	1.8	1.4	1.1	1.1	.87	1.2	1.4
27	1.5	1.9	1.7	2.3	1.7	1.7	1.4	1.1	1.1	.86	1.2	1.4
28	1.6	1.9	1.7	2.3	1.8	1.7	1.4	1.1	1.1	.89	1.1	1.4
29	1.6	2.0	1.8	2.2	---	1.7	1.3	1.2	1.0	.90	1.1	1.4
30	1.6	2.0	1.9	2.2	---	1.7	1.3	1.2	.99	.90	1.1	1.4
31	1.7	---	3.3	2.3	---	1.7	---	1.3	---	.94	1.2	---
TOTAL	43.5	53.1	59.7	82.2	50.3	55.7	45.1	25.79	36.09	30.00	40.9	38.1
MEAN	1.40	1.77	1.93	2.65	1.80	1.80	1.50	.83	1.20	.97	1.32	1.27
MAX	2.3	2.0	3.3	5.4	2.3	3.0	1.8	3.2	1.4	1.1	6.0	1.4
MIN	1.1	1.6	1.7	2.0	1.5	1.6	1.0	.30	.99	.86	1.1	1.1
AC-FT	86	105	118	163	100	110	89	51	72	60	81	76

WTR YR 1977 TOTAL 560.48 MEAN 1.54 MAX 6.0 MIN .30 AC-FT 1110

## 11109550 PIRU CREEK ABOVE FRENCHMANS FLAT, CA

LOCATION.--Lat 34°37'43", long 118°44'42", in NW¼SW¼NW¼ sec.12, T.6 N., R.18 W., Los Angeles County, on right bank of concrete-lined channel beside old Highway 99, 12.5 mi (20.1 km) north of Castaic, and 1 mi (2 km) north of Frenchmans Flat.

DRAINAGE AREA.--308 m<sup>2</sup> (798 km<sup>2</sup>).

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1976 to September 1977. December 1963 to September 1976 in files of California Department of Water Resources.

GAGE.--Water-stage recorder. Altitude of gage is 2,100 ft (640 m), from topographic map.

REMARKS.--Records fair. Station is used to monitor releases from Pyramid Lake 1.5 (2.4 km) upstream, into the Piru Creek basin.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 36,000 ft<sup>3</sup>/s (1,020 m<sup>3</sup>/s), estimated, Feb. 25, 1969, by California Department of Water Resources; no flow Jan. 1-18, 1974.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 86 ft<sup>3</sup>/s (2.44 m<sup>3</sup>/s) Jan. 18, gage height, 2.48 ft (0.756 m); minimum daily, 0.19 ft<sup>3</sup>/s (0.005 m<sup>3</sup>/s) Oct. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.4	4.9	5.0	5.2	72	5.0	4.1	4.7	8.3	16	15	16
2	4.4	4.8	4.8	7.0	72	5.0	4.0	4.5	8.3	16	15	16
3	4.3	4.8	4.6	6.7	71	5.0	4.0	4.5	8.5	16	15	16
4	3.2	4.9	4.6	5.1	70	5.0	4.0	4.5	8.5	16	15	16
5	.19	4.8	4.6	5.3	69	5.0	4.0	4.6	8.6	16	15	16
6	1.1	4.8	4.6	7.0	69	5.0	3.9	4.7	8.7	16	15	16
7	4.3	4.8	4.6	11	69	5.0	3.8	4.8	8.7	16	15	16
8	4.4	4.9	4.7	6.6	69	5.0	3.8	11	8.8	16	15	16
9	4.4	4.8	4.7	5.7	68	5.0	3.8	11	9.0	16	15	16
10	4.5	4.9	4.6	5.5	68	5.0	3.8	6.3	9.9	16	15	16
11	4.5	5.0	4.6	5.4	68	4.9	3.8	5.6	11	16	15	16
12	4.5	5.6	4.6	5.3	68	4.9	3.7	5.5	11	15	15	16
13	4.4	5.0	4.7	5.2	69	4.9	3.7	5.2	11	15	15	16
14	4.5	4.9	4.7	5.1	39	4.5	3.7	5.1	11	15	15	16
15	4.6	4.8	4.7	5.0	5.7	4.1	3.7	4.9	11	15	15	16
16	4.7	4.8	4.7	5.0	5.4	5.4	3.7	4.7	11	16	19	16
17	4.7	4.8	4.7	24	5.3	4.3	3.7	4.6	11	17	16	16
18	4.7	4.8	4.7	66	5.3	4.1	3.6	4.6	11	15	16	16
19	4.7	4.8	4.7	84	5.3	4.0	3.7	4.5	11	15	16	16
20	4.8	5.4	4.7	83	5.2	4.0	3.7	4.5	11	16	16	16
21	4.8	6.3	4.3	83	5.2	4.0	3.7	4.5	11	15	16	15
22	4.8	6.3	4.6	83	5.2	4.0	3.9	4.5	11	15	16	16
23	4.7	6.3	4.6	82	5.2	4.0	4.6	4.7	11	15	16	16
24	4.7	6.3	4.6	81	5.2	4.2	4.6	4.7	11	15	15	16
25	4.7	6.3	4.6	80	5.0	6.3	4.6	4.6	11	15	16	16
26	4.7	6.0	4.7	74	5.0	4.5	4.7	4.5	11	15	16	16
27	4.5	5.2	4.7	70	5.0	4.2	4.7	5.8	11	15	16	16
28	4.9	5.2	4.7	70	5.0	4.1	4.7	7.7	11	15	16	16
29	5.1	5.2	4.7	70	---	4.1	4.7	8.4	11	15	16	16
30	5.1	5.2	5.1	72	---	4.2	4.7	8.3	13	15	16	16
31	5.1	---	5.9	72	---	4.1	---	8.3	---	15	16	---
TOTAL	134.39	156.6	146.1	1190.1	1014.0	142.8	121.1	175.8	309.3	480	483	479
MEAN	4.34	5.22	4.71	38.4	36.2	4.61	4.04	5.67	10.3	15.5	15.6	16.0
MAX	5.1	6.3	5.9	84	72	6.3	4.7	11	13	17	19	16
MIN	.19	4.8	4.3	5.0	5.0	4.0	3.6	4.5	8.3	15	15	15
AC-FT	267	311	290	2360	2010	283	240	349	613	952	958	950

WTR YR 1977 TOTAL 4832.19 MEAN 13.2 MAX 84 MIN .19 AC-FT 9580

## SANTA CLARA RIVER BASIN

11109550 PIRU CREEK ABOVE FRENCHMANS FLAT, CA

## WATER-QUALITY RECORDS

LOCATION.--Lat 34°37'43", long 118°44'42", in NW¼SW¼NW¼ sec. 12, T.6 N., R.18 W., Los Angeles County, on right bank of concrete-lined channel beside old Highway 99, 1 mi (2 km) north of Frenchmans Flat, and 12.5 mi (20.1 km) north of Castaic.

## PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: March 1972 to current year.

INSTRUMENTATION.--Specific conductance recorder since March 1972.

REMARKS.--Gaging station 700 ft (213 m) upstream operated by California Department of Water Resources.

## EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum recorded, 2,540 micromhos Dec. 29, 1973; minimum recorded, 338 micromhos Nov. 30, 1972, Feb. 13, 1976.

## EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 1,440 micromhos Oct. 6; minimum, 498 micromhos Jan. 21, 23.

## SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	651	639	646	630	608	621	649	635	642	916	730	794
2	649	635	644	626	610	619	661	639	648	890	650	715
3	648	636	643	626	606	618	664	650	658	1260	944	1090
4	808	638	669	626	608	619	680	658	669	932	838	870
5	1190	819	1040	626	606	620	670	652	662	846	738	805
6	1440	857	1290	627	607	622	666	652	663	1020	800	899
7	802	670	700	630	610	624	668	654	663	1330	996	1200
8	675	653	662	633	615	627	677	651	666	1340	1160	1250
9	656	638	649	633	619	629	677	651	665	1150	1020	1080
10	650	634	644	644	620	632	662	644	653	1020	958	987
11	649	635	644	651	607	637	651	639	647	956	912	930
12	644	634	640	782	610	697	653	635	648	920	874	892
13	640	626	635	691	655	667	658	630	646	888	844	864
14	639	627	634	666	640	652	651	633	644	858	826	841
15	640	622	634	647	635	643	651	631	645	836	812	823
16	645	619	633	653	635	641	684	636	652	818	790	804
17	633	613	625	654	634	643	683	635	658	800	542	661
18	632	614	624	645	633	641	665	635	654	550	514	532
19	630	614	623	646	628	639	664	634	650	518	502	510
20	630	618	624	650	628	640	663	631	650	520	504	514
21	636	616	629	648	626	637	713	633	663	520	498	515
22	642	622	633	642	620	634	674	640	656	524	510	516
23	648	628	639	644	604	630	672	642	659	524	498	513
24	652	624	637	643	603	628	684	634	655	526	502	518
25	636	620	630	641	621	632	660	630	648	526	508	517
26	634	618	629	651	625	639	660	632	645	518	506	512
27	650	622	634	647	631	641	662	638	652	520	504	514
28	630	612	621	649	631	640	672	638	652	520	506	513
29	632	608	620	647	629	638	664	634	652	518	506	512
30	632	608	622	649	631	640	700	646	668	528	504	515
31	632	608	622	---	---	---	710	602	676	534	506	520
MONTH	1440	608	672	782	603	636	713	602	655	1340	498	733

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

	FEBRUARY			MARCH			APRIL			MAY		
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	534	508	520	720	688	706	782	722	752	696	642	669
2	534	510	523	718	674	698	782	728	757	690	610	662
3	532	516	525	711	655	686	782	712	747	688	610	661
4	536	518	528	695	655	679	768	708	742	704	596	652
5	538	520	529	694	652	678	762	700	736	704	624	671
6	546	520	531	694	646	673	760	690	727	722	644	682
7	550	530	539	692	644	672	754	680	717	---	---	---
8	552	528	542	693	647	673	752	688	723	---	---	---
9	552	532	544	697	641	674	758	698	726	---	---	---
10	554	532	545	754	682	709	758	684	724	---	---	---
11	556	534	544	720	660	688	742	678	714	---	---	---
12	554	528	544	718	652	687	734	668	703	---	---	---
13	554	530	544	719	653	688	734	682	709	---	---	---
14	726	536	591	739	657	690	728	676	706	---	---	---
15	736	696	720	745	689	724	724	666	700	---	---	---
16	732	686	715	942	686	799	728	670	703	---	---	---
17	730	682	712	868	780	813	730	676	702	---	---	---
18	732	676	709	801	729	767	716	678	700	---	---	---
19	726	676	704	777	713	747	720	666	696	---	---	---
20	720	674	702	767	709	744	730	680	702	794	748	771
21	718	676	699	756	696	733	748	680	716	784	738	760
22	722	678	703	748	688	724	736	642	701	776	734	756
23	718	684	701	745	699	725	702	618	673	774	752	765
24	722	698	708	769	703	729	694	570	661	---	---	---
25	726	684	707	957	629	829	696	634	676	766	678	733
26	721	681	705	964	862	896	696	658	682	778	694	726
27	721	679	702	860	790	823	698	658	681	758	636	693
28	718	676	700	825	767	796	706	646	676	664	612	639
29	---	---	---	801	760	782	720	632	676	---	---	---
30	---	---	---	798	734	772	708	642	673	670	614	633
31	---	---	---	794	740	768	---	---	---	636	610	620
MONTH	736	508	623	964	629	735	782	570	707	---	---	---
	JUNE			JULY			AUGUST			SEPTEMBER		
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	---	---	---	601	571	584	597	557	587	606	568	583
2	---	---	---	587	565	578	608	556	581	608	570	589
3	656	602	621	586	566	578	601	555	574	610	568	588
4	634	600	615	586	558	576	605	555	578	612	564	590
5	---	---	---	583	563	574	610	558	573	608	562	584
6	664	602	624	583	559	573	575	557	568	606	564	592
7	---	---	---	592	560	575	576	556	568	606	564	590
8	---	---	---	599	561	578	574	558	567	606	550	591
9	---	---	---	597	563	581	583	557	571	608	566	590
10	---	---	---	606	562	583	584	556	573	610	568	582
11	---	---	---	608	566	582	582	556	571	604	566	586
12	---	---	---	609	563	578	584	564	578	602	564	589
13	---	---	---	599	561	579	586	560	576	606	564	592
14	---	---	---	592	554	571	588	556	575	602	566	586
15	---	---	---	577	555	568	578	560	571	586	566	576
16	---	---	---	581	553	568	578	564	572	600	554	576
17	---	---	---	592	554	575	950	552	716	592	570	580
18	---	---	---	604	554	577	718	624	651	584	564	578
19	---	---	---	593	563	581	626	600	611	580	566	575
20	---	---	---	597	555	583	616	582	600	582	570	575
21	---	---	---	598	551	568	606	578	594	588	568	576
22	---	---	---	592	552	568	602	572	588	592	568	583
23	---	---	---	590	558	575	594	572	586	590	566	581
24	---	---	---	593	553	573	602	572	587	588	560	576
25	---	---	---	588	550	567	628	580	590	592	568	578
26	---	---	---	589	555	570	612	572	588	590	566	578
27	---	---	---	591	565	581	600	572	583	588	564	579
28	---	---	---	592	550	570	608	570	587	586	562	577
29	---	---	---	599	547	573	614	566	589	584	564	576
30	---	---	---	598	558	586	608	568	583	584	562	575
31	---	---	---	598	574	587	614	570	599	---	---	---
MONTH	---	---	---	609	547	576	950	552	588	612	550	582
YEAR	1440	498	653									

## SANTA CLARA RIVER BASIN

11109600 PIRU CREEK ABOVE LAKE PIRU, CA

LOCATION.--Lat 34°31'23", long 118°45'22", in SW¼NE¼NW¼ sec.15, T.5 N., R.18 W., Ventura County, on left bank near Blue Point, 1.3 mi (2.1 km) downstream from Agua Blanca Creek, 4.3 mi (6.9 km) upstream from Santa Felicia Dam, and 8.0 mi (12.9 km) northeast of Piru.

DRAINAGE AREA.--372 mi<sup>2</sup> (963 km<sup>2</sup>).

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1955 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,058.55 ft (322.646 m) above mean sea level (levels by U.S. Forest Service). Prior to Dec. 15, 1972, at site 0.3 mi (0.5 km) upstream at different datum.

REMARKS.--Records good. Flow regulated beginning December 1971 by Pyramid Dam, capacity, 173,500 acre-ft (214 hm<sup>3</sup>) 15 mi (24 km) upstream. Imported water from the California Water Project stored and released from Pyramid Dam. No diversion above station.

AVERAGE DISCHARGE.--16 years (water years 1956-71), 55.1 ft<sup>3</sup>/s (1.560 m<sup>3</sup>/s), 39,920 acre-ft/yr (49.2 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 31,200 ft<sup>3</sup>/s (884 m<sup>3</sup>/s) Feb. 25, 1969, gage height, 18.6 ft (5.669 m), site and datum then in use, from floodmark, from rating curve extended above 4,000 ft<sup>3</sup>/s (113 m<sup>3</sup>/s) on basis of slope-area measurement at gage height 12.2 ft (3.719 m) and inflow-outflow records for Lake Piru; no flow in some years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 2, 1938, 35,000 ft<sup>3</sup>/s (991 m<sup>3</sup>/s), is the greatest since that date.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 301 ft<sup>3</sup>/s (8.52 m<sup>3</sup>/s) May 8, gage height, 5.26 ft (1.603 m); minimum daily, 0.14 ft<sup>3</sup>/s (0.004 m<sup>3</sup>/s) Oct. 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.8	4.2	4.5	11	76	7.8	8.8	6.4	11	14	15	13
2	3.8	3.8	4.8	21	76	7.8	8.3	6.4	11	16	14	13
3	3.8	3.8	4.8	70	77	7.8	7.8	6.0	10	16	15	13
4	3.2	3.5	4.5	12	77	8.3	7.8	6.0	11	16	15	13
5	2.4	3.5	4.8	9.3	77	7.8	7.3	5.6	10	16	14	14
6	.68	3.5	4.5	36	76	7.8	6.4	6.9	11	17	14	13
7	.14	3.8	4.2	78	76	7.8	6.4	8.8	11	17	14	13
8	1.3	3.8	4.2	38	77	7.8	6.0	102	10	17	13	13
9	1.8	3.8	4.5	23	76	7.8	6.4	171	12	18	13	13
10	2.2	3.8	4.5	16	76	7.8	6.4	51	13	18	13	13
11	2.4	4.2	4.5	12	77	7.8	6.0	33	13	17	13	14
12	2.4	7.8	4.2	11	77	7.8	6.9	31	13	18	12	14
13	2.2	6.9	4.2	10	77	7.8	6.4	22	13	17	11	14
14	2.2	5.6	4.2	8.8	70	8.3	6.0	20	13	17	10	14
15	3.7	4.8	4.2	8.3	17	8.3	6.0	18	12	17	10	15
16	3.2	4.8	4.2	8.3	11	15	6.0	17	12	18	11	15
17	3.5	4.5	4.2	9.4	19	19	6.0	16	11	17	35	15
18	3.8	4.5	4.2	45	8.8	14	5.6	14	11	17	24	15
19	3.8	4.5	4.5	83	8.3	10	5.2	13	11	17	18	15
20	4.2	4.5	4.5	88	8.3	9.8	4.8	12	11	17	15	15
21	4.8	4.5	4.5	93	8.3	9.8	4.8	11	11	16	13	14
22	5.1	4.5	3.8	91	7.8	9.8	4.8	10	11	16	13	14
23	7.8	4.5	3.8	89	8.3	10	4.8	11	11	16	13	15
24	5.2	4.5	3.8	89	7.8	10	5.2	12	11	16	13	15
25	4.8	4.5	3.8	85	7.8	40	5.6	11	11	16	13	14
26	4.2	4.5	3.8	81	7.3	31	5.2	10	11	16	13	15
27	4.2	4.8	3.8	76	7.3	13	5.2	9.3	10	16	13	15
28	4.2	4.5	4.2	76	8.3	10	5.6	10	10	16	12	15
29	4.2	4.5	4.5	77	---	8.3	5.6	12	9.8	15	12	15
30	4.2	4.5	6.9	77	---	8.8	6.0	13	9.8	15	13	15
31	4.2	---	7.3	77	---	10	---	11	---	15	13	---
TOTAL	107.42	134.9	138.4	1509.1	1190.6	347.0	183.3	686.4	335.6	510	440	424
MEAN	3.47	4.50	4.46	48.7	42.5	11.2	6.11	22.1	11.2	16.5	14.2	14.1
MAX	7.8	7.8	7.3	93	77	40	8.8	171	13	18	35	15
MIN	.14	3.5	3.8	8.3	7.3	7.8	4.8	5.6	9.8	14	10	13
AC-FT	213	268	275	2990	2360	688	364	1360	666	1010	873	841
CAL YR 1976	TOTAL	5246.52	MEAN	14.3	MAX	531	MIN	.14	AC-FT	10410		
WTR YR 1977	TOTAL	6006.72	MEAN	16.5	MAX	171	MIN	.14	AC-FT	11910		

11109600 PIRU CREEK ABOVE LAKE PIRU, CA--Continued

## WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: March 1971 to current year.

INSTRUMENTATION.--Specific conductance recorder since March 1971.

REMARKS.--Periods of missing specific conductance data due to recorder malfunction and vandalism.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum recorded, 1,980 micromhos June 3, 1973; minimum recorded, 464 micromhos Apr. 22, 1973.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum recorded, 1,160 micromhos Jan. 5; minimum recorded, 573 micromhos Jan. 23.

## SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	901	849	878	914	852	892	905	873	894	930	896	910
2	904	854	881	909	853	889	903	871	893	933	839	884
3	907	845	881	910	852	889	907	871	896	964	574	787
4	912	850	885	909	851	889	909	875	897	1140	952	1070
5	916	848	891	908	848	889	907	875	897	1160	1030	1100
6	954	878	920	907	851	887	907	877	898	1090	873	1010
7	970	894	944	906	848	886	911	877	900	907	811	843
8	995	867	922	905	847	883	913	879	901	---	---	---
9	925	879	909	902	846	882	908	878	897	---	---	---
10	927	871	906	902	848	882	906	880	898	---	---	---
11	925	865	902	898	860	881	910	882	902	---	---	---
12	919	859	898	902	864	878	914	880	902	987	959	970
13	919	857	897	889	863	876	910	876	898	973	949	960
14	921	861	900	915	887	901	906	874	895	959	935	947
15	920	858	895	907	873	898	904	876	896	945	923	937
16	916	864	894	907	867	895	906	880	898	941	931	935
17	914	860	893	905	865	894	909	877	897	943	893	931
18	916	856	892	905	863	893	907	879	895	893	621	733
19	914	854	889	905	861	891	902	870	891	617	587	598
20	914	864	891	903	861	890	902	872	892	599	585	591
21	906	830	880	902	862	890	905	875	894	589	579	585
22	908	856	886	902	860	888	904	878	897	585	577	581
23	902	830	868	902	860	888	907	879	897	589	573	581
24	896	836	873	902	860	888	915	883	901	599	575	588
25	912	846	888	904	864	891	906	880	898	615	595	604
26	---	---	---	902	864	888	907	881	898	615	601	607
27	---	---	---	902	876	892	910	880	900	618	608	612
28	---	---	---	907	883	898	913	885	902	618	606	611
29	---	---	---	907	877	897	912	886	900	618	602	609
30	918	866	900	905	871	893	903	863	889	614	600	607
31	915	861	896	---	---	---	895	879	888	612	598	605
MONTH	995	830	895	915	846	889	915	863	897	1160	573	770

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

FEBRUARY				MARCH			APRIL			MAY		
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	614	598	605	---	---	---	1000	968	986	---	---	---
2	610	598	604	---	---	---	1000	964	987	---	---	---
3	614	588	607	---	---	---	1010	964	987	---	---	---
4	618	608	614	---	---	---	1000	966	987	---	---	---
5	626	608	617	---	---	---	1000	964	984	---	---	---
6	626	610	620	---	---	---	996	954	978	---	---	---
7	630	610	620	---	---	---	994	958	977	---	---	---
8	628	608	618	---	---	---	994	956	978	---	---	---
9	626	608	619	---	---	---	997	965	983	---	---	---
10	626	606	618	---	---	---	999	959	982	---	---	---
11	624	602	617	941	897	925	999	955	980	---	---	---
12	626	600	616	958	906	935	999	949	977	---	---	---
13	680	604	627	956	918	939	993	951	976	---	---	---
14	---	---	---	968	916	946	989	945	973	944	932	938
15	---	---	---	965	919	949	991	943	972	939	929	934
16	868	810	847	961	885	921	983	939	967	937	927	932
17	894	840	867	937	895	911	978	938	960	937	925	930
18	898	848	874	990	938	955	978	944	961	942	930	935
19	900	854	877	1000	960	983	990	944	964	944	930	938
20	898	860	878	995	949	976	980	944	963	944	932	939
21	---	---	---	989	943	971	980	946	964	945	929	939
22	---	---	---	983	939	964	974	940	959	945	927	936
23	---	---	---	974	958	969	972	940	958	938	930	934
24	---	---	---	980	960	972	964	928	948	934	922	928
25	---	---	---	974	902	919	959	925	943	927	911	921
26	---	---	---	949	855	890	949	917	936	927	911	920
27	---	---	---	989	955	970	949	917	933	934	912	923
28	---	---	---	1010	965	990	952	900	930	928	902	914
29	---	---	---	1010	972	997	962	892	933	919	885	899
30	---	---	---	1010	962	991	952	908	933	885	869	878
31	---	---	---	1000	952	977	---	---	---	880	858	869
MONTH	---	---	---	---	---	---	1010	892	965	---	---	---
JUNE				JULY			AUGUST			SEPTEMBER		
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	872	852	863	792	758	774	706	686	697	731	711	719
2	872	848	862	758	736	746	706	688	698	730	712	720
3	868	840	858	748	732	739	708	690	698	732	714	721
4	866	840	855	746	728	735	706	686	696	733	713	721
5	860	840	852	744	722	732	704	690	696	733	711	720
6	856	834	848	740	718	730	708	690	698	730	710	718
7	854	824	843	742	720	730	709	691	699	726	714	718
8	852	824	841	740	718	728	707	689	697	728	714	720
9	860	832	846	738	716	726	706	690	698	729	711	718
10	860	826	846	736	716	725	708	692	699	727	709	716
11	840	816	831	736	714	724	707	689	698	725	709	715
12	832	804	821	732	712	722	705	687	696	723	705	714
13	824	798	815	732	712	721	706	690	697	722	704	713
14	822	794	812	730	708	719	706	690	697	720	702	711
15	820	790	809	730	708	718	707	687	697	720	702	709
16	818	786	806	726	706	716	703	689	696	719	701	709
17	814	784	802	724	706	714	868	668	752	713	695	706
18	812	782	800	724	702	712	908	790	857	725	705	714
19	806	784	799	722	698	711	877	777	813	719	703	710
20	806	782	797	722	700	710	779	753	766	718	696	707
21	808	784	797	722	698	709	762	740	750	718	698	708
22	804	782	797	722	700	711	750	730	739	716	700	708
23	808	780	795	724	704	713	743	725	732	713	693	703
24	802	778	793	722	698	709	737	721	728	715	695	704
25	802	780	794	718	696	706	738	720	727	715	697	704
26	802	780	793	718	694	707	746	724	732	711	691	700
27	800	780	792	718	694	707	731	715	724	710	692	700
28	798	776	790	718	692	705	731	715	721	712	692	702
29	796	776	788	714	690	702	734	714	722	712	692	701
30	796	776	789	712	692	701	732	712	721	709	693	700
31	---	---	---	708	690	699	729	713	719	---	---	---
MONTH	872	776	818	792	690	719	908	668	721	733	691	711
YEAR	1160	573	827									



## 11109700 LAKE PIRU NEAR PIRU, CA

LOCATION.--Lat 34°27'52", long 118°44'57", in Temescal Grant, Ventura County, at Santa Felicia Dam on Piru Creek, on left bank 1,000 ft (305 m) upstream from left end of dam, 0.5 mi (0.8 km) downstream from Santa Felicia Canyon, and 4.2 mi (6.8 km) northeast of Piru.

DRAINAGE AREA.--425 mi<sup>2</sup> (1,101 km<sup>2</sup>).

PERIOD OF RECORD.--May 1955 to current year.

GAGE.--Nonrecording gage. Datum of gage is at mean sea level (levels by United Water Conservation District). Prior to Jan. 27, 1956, reference point at intake tower at same datum.

REMARKS.--Lake is formed by earthfill dam. Storage began May 20, 1955. Capacity table is based on a survey made in 1975. Capacity below spillway level at elevation 1,055.0 ft (321.564 m), 91,010 acre-ft (112 hm<sup>3</sup>). Flow regulated since December 1971 by Pyramid Dam, capacity, 173,500 acre-ft (214 hm<sup>3</sup>). Imported water from the California Water Project stored behind and released from Pyramid Dam. Water is released from outlet to Piru Creek for ground-water recharge, domestic use, and irrigation on the Oxnard plain.

COOPERATION.--Elevations furnished by United Water Conservation District.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 109,400 acre-ft (135 hm<sup>3</sup>) Feb. 25, 1969, elevation, 1,061.45 ft (323.530 m); lake dry Oct. 25 to Nov. 20, 1961.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 13,860 acre-ft (17.1 hm<sup>3</sup>) Sept. 28-30, elevation, 966.65 ft (294.635 m); minimum, 7,550 acre-ft (9.31 hm<sup>3</sup>) Nov. 2-11, Dec. 24-29, elevation, 949.45 ft (289.392 m).

## MONTHEND ELEVATION AND CONTENTS, AT 0800, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30.....	962.30	11960	--
Oct. 31.....	949.50	7560	-4400
Nov. 30.....	949.50	7560	0
Dec. 31.....	949.50	7560	0
CAL YR 1976.....	--	--	-2820
Jan. 31.....	957.90	10310	+2750
Feb. 28.....	962.90	12210	+1900
Mar. 31.....	963.35	12390	+180
Apr. 30.....	963.20	12330	-60
May 31.....	965.35	13260	+930
June 30.....	965.50	13330	+70
July 31.....	965.70	13420	+90
Aug. 31.....	966.40	13740	+320
Sept. 30.....	966.65	13860	+120
WTR YR 1977.....	--	--	+1900

## SANTA CLARA RIVER BASIN

11109800 PIRU CREEK BELOW SANTA FELICIA DAM, CA

LOCATION.--Lat 34°27'37", long 118°45'04", in Temescal Grant, Ventura County, on right bank 750 ft (229 m) downstream from Santa Felicia Dam, 1 mi (2 km) upstream from Lime Canyon, 4 mi (6 km) northeast of Piru, and 20 mi (32 km) downstream from Pyramid Dam.

DRAINAGE AREA.--425 mi<sup>2</sup> (1,100 km<sup>2</sup>).

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1955 to September 1968, October 1973 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 858.8 ft (261.76 m) above mean sea level (levels by United Water Conservation District).

REMARKS.--Records good. Since May 1955 flow regulated by Santa Felicia Dam (Lake Piru, station 11109700) and since December 1971 by Pyramid Dam, capacity 173,500 acre-ft (214 hm<sup>3</sup>). Imported water from the California Water Project stored by Pyramid Dam. No diversion above station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 544 ft<sup>3</sup>/s (15.4 m<sup>3</sup>/s) Aug. 18, 1958, gage height, 3.66 ft (1.116 m); no flow at times in some years.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 288 ft<sup>3</sup>/s (8.16 m<sup>3</sup>/s) Oct. 5; minimum daily, 1.9 ft<sup>3</sup>/s (0.054 m<sup>3</sup>/s) Dec. 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.5	7.0	6.8	6.9	2.9	3.9	5.0	5.5	5.5	6.7	6.3	7.8
2	7.5	7.1	6.6	7.1	2.9	3.9	5.0	5.4	5.5	6.6	6.3	7.8
3	7.5	4.7	6.6	6.9	2.9	3.9	5.0	5.2	5.5	6.6	6.2	7.8
4	194	6.6	6.6	6.9	2.9	3.9	5.0	5.2	5.5	6.6	6.0	7.8
5	288	6.6	6.6	6.9	2.9	3.9	4.8	5.2	5.5	6.6	6.0	7.8
6	254	6.6	6.8	6.9	2.9	3.9	5.0	5.2	5.5	6.6	6.0	7.8
7	253	6.7	6.9	6.9	2.9	3.9	5.0	5.2	5.5	6.6	6.0	7.8
8	251	6.9	2.7	6.9	2.9	3.9	5.0	5.3	5.5	6.6	6.1	7.8
9	251	6.9	1.9	6.9	3.0	3.9	5.0	5.3	5.5	6.6	6.2	7.8
10	251	6.9	6.8	6.9	2.9	3.7	5.0	5.2	5.5	6.6	6.3	7.8
11	247	6.9	6.9	6.9	2.9	3.7	5.0	5.2	5.6	6.6	6.2	7.8
12	210	6.9	6.9	4.6	3.0	4.4	5.0	5.2	5.8	6.6	6.2	7.8
13	169	6.9	6.9	2.8	3.1	4.8	5.0	5.2	5.8	6.3	6.1	7.8
14	30	6.9	6.9	2.8	3.6	4.8	5.2	5.2	5.8	6.4	6.0	7.8
15	26	7.0	6.9	2.8	4.0	4.8	5.2	5.2	5.8	6.6	6.0	7.9
16	7.2	6.9	6.9	2.9	4.1	4.8	5.5	5.2	5.8	6.6	6.0	8.0
17	7.2	3.1	6.9	2.9	4.1	4.8	5.5	5.2	5.8	6.6	6.1	8.1
18	18	6.9	6.9	2.9	4.1	4.8	5.6	5.5	5.8	6.6	6.0	8.1
19	23	6.9	6.9	2.9	4.1	4.9	5.7	5.5	5.5	6.6	3.9	8.1
20	7.2	6.9	6.9	2.9	4.0	5.0	5.7	5.5	5.5	6.7	3.5	8.1
21	7.2	6.9	6.9	2.9	3.9	5.0	5.7	5.5	5.5	6.4	3.5	8.1
22	7.2	6.9	6.9	2.9	3.9	5.0	5.7	5.5	5.5	6.3	2.9	8.1
23	7.2	6.9	6.9	2.9	3.9	5.0	5.7	5.5	5.5	6.3	2.4	8.1
24	7.2	6.9	6.9	2.9	3.9	4.8	5.7	5.5	5.6	6.3	3.3	8.0
25	7.1	6.9	6.9	2.9	3.9	4.8	5.7	5.5	5.7	6.3	3.3	7.9
26	7.0	6.9	6.9	2.9	3.9	4.8	5.7	5.5	5.5	6.3	3.3	7.8
27	6.9	7.0	6.9	2.9	3.9	4.8	5.6	5.5	5.6	6.0	3.3	7.8
28	6.9	7.0	6.9	2.9	3.9	4.9	5.5	5.5	6.0	6.1	3.3	7.8
29	6.9	7.1	6.9	2.9	---	5.0	5.5	5.5	6.4	6.3	3.3	7.8
30	6.9	7.1	6.9	2.9	---	5.0	5.5	5.5	7.1	6.3	6.4	7.8
31	6.9	---	6.9	2.9	---	5.0	---	5.5	---	6.3	7.8	---
TOTAL	2586.5	200.9	203.2	135.5	97.3	139.7	159.5	166.1	170.6	200.6	160.2	236.7
MEAN	83.4	6.70	6.55	4.37	3.48	4.51	5.32	5.36	5.69	6.47	5.17	7.89
MAX	288	7.1	6.9	7.1	4.1	5.0	5.7	5.5	7.1	6.7	7.8	8.1
MIN	6.9	3.1	1.9	2.8	2.9	3.7	4.8	5.2	5.5	6.0	2.4	7.8
AC-FT	5130	398	403	269	193	277	316	329	338	398	318	469

CAL YR 1976 TOTAL 6327.14 MEAN 17.3 MAX 288 MIN 0 AC-FT 12550  
WTR YR 1977 TOTAL 4456.80 MEAN 12.2 MAX 288 MIN 1.9 AC-FT 8840

11109800 PIRU CREEK BELOW SANTA FELICIA DAM, CA--Continued

## WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: February 1974 to current year.

INSTRUMENTATION.--Specific conductance recorder since February 1974.

REMARKS.--Periods of missing specific conductance data due to periods of no flow.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 1,320 micromhos June 13, 1975; minimum, 801 micromhos June 23, 1975.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 1,210 micromhos Dec. 3-5; minimum, 964 micromhos Aug. 15.

## SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	1080	1030	1060	1150	1120	1140	1200	1180	1190	1200	1180	1190
2	1070	1020	1060	1160	1120	1140	1200	1170	1190	1190	1020	1170
3	1070	1020	1060	---	---	---	1210	1170	1190	1190	1140	1170
4	1080	1060	1070	1150	1120	1140	1210	1180	1200	1180	1170	1180
5	1080	1060	1070	1160	1130	1150	1210	1180	1190	1180	1170	1180
6	1080	1060	1070	1160	1130	1150	1200	1180	1190	1180	1140	1160
7	1070	1060	1070	1160	1130	1150	1200	1180	1200	1180	1150	1170
8	1070	1060	1070	1160	1140	1150	---	---	---	1180	1170	1180
9	1080	1060	1070	1170	1140	1160	---	---	---	1180	1160	1180
10	1090	1060	1070	1170	1150	1160	1190	1180	1190	1180	1160	1170
11	1090	1070	1080	1170	1150	1160	1200	1180	1190	1180	1160	1170
12	---	---	---	1170	1160	1170	1190	1170	1190	1180	1150	1170
13	1100	1070	1090	1170	1160	1170	1190	1170	1180	1190	1140	1170
14	1110	1080	1100	1170	1160	1170	1190	1170	1190	1180	1150	1170
15	1110	1080	1100	1170	1150	1160	1190	1170	1180	1180	1140	1170
16	1100	1080	1100	1170	1150	1160	1190	1170	1190	1180	1140	1170
17	1110	1080	1100	---	---	---	1200	1170	1190	1180	1140	1170
18	1110	1090	1100	1170	1140	1160	1200	1180	1190	1180	1130	1160
19	1110	1090	1100	1170	1150	1160	1200	1180	1190	1180	1140	1170
20	1110	1090	1100	1180	1150	1170	1200	1180	1190	1180	1150	1170
21	1120	1090	1110	1180	1150	1170	1200	1180	1190	1180	1130	1170
22	1120	1090	1110	1180	1160	1170	1200	1170	1190	1180	1130	1160
23	1120	1090	1110	1180	1160	1170	1200	1180	1200	1180	1110	1150
24	1120	1100	1110	1190	1160	1180	1200	1180	1190	1170	1050	1100
25	1120	1100	1110	1190	1160	1180	1200	1180	1190	1180	1090	1140
26	1130	1110	1120	1190	1170	1180	1200	1180	1190	1170	1070	1120
27	1140	1110	1130	1200	1180	1190	1200	1180	1190	1170	1050	1120
28	1140	1110	1130	1200	1180	1190	1200	1180	1190	1180	1070	1120
29	1150	1110	1130	1200	1180	1190	1200	1180	1190	1180	1040	1110
30	1150	1120	1140	1200	1170	1190	1190	1180	1190	1120	1030	1060
31	1150	1110	1140	---	---	---	1200	1180	1190	1160	1010	1100
MONTH	1150	1020	1100	1200	1120	1170	1210	1170	1190	1200	1010	1150

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

	FEBRUARY			MARCH			APRIL			MAY		
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	1170	1050	1100	1040	1000	1020	1070	1020	1050	1090	1050	1070
2	1080	1010	1040	1040	1000	1030	1060	1020	1050	1090	1040	1070
3	1100	999	1030	1040	1000	1020	1070	1020	1050	1090	1050	1070
4	1090	994	1030	1040	1000	1020	1070	1020	1050	1090	1050	1070
5	1120	984	1050	1040	1000	1020	1070	1020	1050	1090	1060	1080
6	1070	989	1020	1050	998	1030	1070	1010	1050	1090	1060	1080
7	1110	975	1050	1050	1000	1030	1070	1020	1050	1090	1050	1080
8	1100	1010	1060	1040	1000	1030	1070	1020	1050	1080	998	1060
9	1060	990	1010	1050	1010	1030	1070	1030	1060	1070	1020	1050
10	1060	987	1030	1050	1020	1040	1080	1030	1050	1050	1020	1040
11	1060	989	1030	1050	1010	1030	1080	1030	1060	1070	1000	1040
12	1060	992	1030	1050	1010	1030	1080	1020	1050	1070	1040	1050
13	1070	976	1040	1050	1010	1040	1070	1030	1060	1070	1020	1040
14	1050	1000	1020	1050	1020	1040	1070	1030	1060	1070	1010	1050
15	1060	965	1030	1050	1010	1040	1080	1030	1060	1070	1010	1040
16	1060	1010	1030	1050	1020	1040	1080	1030	1060	1070	1010	1040
17	1050	1000	1030	1050	1020	1040	1080	1030	1060	1070	1010	1040
18	1050	1010	1030	1050	1010	1030	1080	1030	1060	1070	1010	1040
19	1050	1010	1030	1050	1010	1030	1080	1030	1060	1070	1020	1050
20	1050	1010	1030	1050	1010	1030	1080	1030	1060	1070	1010	1040
21	1050	1000	1030	1050	1010	1030	1080	1030	1060	1070	1010	1040
22	1060	980	1020	1040	1010	1030	1080	1030	1060	1070	1020	1050
23	1060	1020	1040	1040	1020	1040	1080	1030	1060	1070	1050	1060
24	1050	1010	1030	1040	1020	1040	1080	1040	1060	1060	1030	1050
25	1060	996	1020	1040	1010	1030	1090	1040	1070	1070	1020	1050
26	1030	994	1020	1050	1010	1030	1080	1040	1070	1080	1020	1050
27	1040	1000	1020	1050	1010	1030	1080	1040	1070	1070	1020	1050
28	1040	995	1020	1040	1010	1030	1080	1040	1070	1080	1020	1050
29	---	---	---	1050	1010	1030	1090	1040	1070	1080	1020	1050
30	---	---	---	1050	1020	1040	1090	1050	1070	1080	1020	1050
31	---	---	---	1060	1020	1040	---	---	---	1080	1010	1050
MONTH	1170	965	1030	1060	998	1030	1090	1010	1060	1090	998	1050
		JUNE			JULY			AUGUST			SEPTEMBER	
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	1070	1020	1050	1080	1010	1050	1050	1010	1030	1030	1000	1020
2	1070	1020	1050	1080	1010	1050	1040	992	1020	1030	992	1020
3	1070	1020	1050	1080	1000	1050	1030	986	1010	1030	992	1020
4	1070	1010	1050	1080	1010	1060	1040	1010	1020	1030	986	1010
5	1070	1010	1050	1080	1010	1060	1050	1010	1030	1030	992	1010
6	1070	1010	1050	1080	1010	1050	1050	1010	1030	1030	994	1010
7	1070	1000	1050	1050	1020	1040	1040	1010	1030	1030	992	1020
8	1070	1010	1050	1050	1010	1030	1040	1000	1030	1030	992	1020
9	1070	1030	1060	1050	1020	1040	1040	1000	1020	1030	996	1020
10	1070	1010	1050	1050	1020	1040	1040	998	1020	1030	998	1020
11	1070	1010	1050	1050	1020	1040	1030	984	1010	1030	1000	1020
12	1070	1010	1050	1060	1020	1040	1030	982	1010	1040	996	1020
13	1070	1010	1050	1050	1020	1040	1030	982	1010	1040	1010	1030
14	1070	1010	1050	1050	1010	1040	1030	976	1000	1040	1010	1030
15	1070	1010	1040	1050	1010	1030	1020	964	997	1040	1010	1030
16	1060	1020	1050	1050	1010	1030	1010	978	1000	1040	1010	1030
17	1060	1020	1040	1050	1010	1030	1020	972	999	1040	1010	1020
18	1060	1020	1040	1050	1010	1030	1020	990	1010	1040	1010	1020
19	1060	1020	1050	1050	1010	1040	---	---	---	1040	1010	1020
20	1060	1020	1050	1050	1020	1040	1040	1000	1020	1030	1010	1020
21	1060	1020	1040	1050	1010	1030	1040	1000	1020	1030	1000	1020
22	1060	1010	1040	1050	1010	1030	1050	1010	1030	1040	1010	1020
23	1050	1010	1040	1050	1010	1040	---	---	---	1030	1010	1020
24	1060	1010	1040	1050	1010	1030	1040	1000	1030	1030	1000	1020
25	1070	1020	1040	1050	1010	1030	1040	1010	1030	1040	1010	1020
26	1070	1010	1040	1040	1010	1030	1040	996	1020	1030	1010	1020
27	1060	1000	1040	1050	1010	1030	1050	988	1020	1030	1010	1020
28	1070	1010	1040	1050	1010	1030	1030	982	1010	1030	1010	1020
29	1070	1010	1050	1050	1010	1030	1030	980	1010	1030	1010	1020
30	1070	1010	1050	1040	1010	1030	1040	996	1020	1030	1010	1020
31	---	---	---	1040	1010	1030	1030	994	1020	---	---	---
MONTH	1070	1000	1050	1080	1000	1040	1050	964	1020	1040	986	1020
YEAR	1210	964	1070									

11110500 HOPPER CREEK NEAR PIRU, CA

LOCATION.--Lat 34°24'03", long 118°49'32", in NE¼NE¼SW¼ sec.25, T.4 N., R.19 W., Ventura County, on downstream end of center pier of bridge on State Highway 126, 1 mi (2 km) upstream from mouth, and 2.1 mi (3.4 km) southwest of Piru.

DRAINAGE AREA.--23.6 mi<sup>2</sup> (61.1 km<sup>2</sup>).

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1930 to September 1932, October 1933 to September 1936, October 1937 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 590 ft (180 m), from topographic map.

REMARKS.--Records fair. No regulation above station. Some pumping along stream for irrigation.

COOPERATION.--Records were furnished by Ventura County Flood Control District; three discharge measurements were made and records were reviewed by Geological Survey.

AVERAGE DISCHARGE.--45 years (water years 1931-32, 1934-36, 1938-77) 5.21 ft<sup>3</sup>/s (0.148 m<sup>3</sup>/s), 3,770 acre-ft/yr (4.65 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,400 ft<sup>3</sup>/s (238 m<sup>3</sup>/s) Jan. 25, 1969, gage height, 12.72 ft (3.877 m), from floodmarks, from rating curve extended above 850 ft<sup>3</sup>/s (24.1 m<sup>3</sup>/s) on basis of slope-area measurement of maximum flow; no flow for several months in most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 390 ft<sup>3</sup>/s (11.0 m<sup>3</sup>/s) Jan. 3 (0030 hrs); gage height, 4.90 ft (1.494 m), no other peaks above base of 150 ft<sup>3</sup>/s (4.25 m<sup>3</sup>/s); no flow many months.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1				0	.64	.09	.15	0			0	
2				11	.45	.09	.15	0			0	
3				53	.45	.09	.07	0			0	
4				2.3	.31	.09	.04	0			0	
5				1.3	.31	.09	.02	0			0	
6				19	.31	.09	.01	0			0	
7				28	.19	.09	.01	0			0	
8				7.6	.15	.09	.01	20			0	
9				5.3	.15	.05	.01	40			0	
10				3.3	.11	.09	.02	6.0			0	
11				2.6	.09	.07	0	2.1			0	
12				2.8	.09	.07	0	1.7			0	
13				3.0	.05	.07	0	1.6			0	
14				3.0	.07	.07	0	.87			0	
15				2.8	.05	.09	0	.37			0	
16				3.0	.05	1.7	0	.24			0	
17				3.0	.03	2.0	0	.19			0	
18				2.5	.03	.64	0	.19			.44	
19				3.2	.03	.19	0	.12			0	
20				2.0	.03	.09	0	.07			0	
21				1.3	.03	.09	0	.04			0	
22				1.0	.05	.05	0	.05			0	
23				.74	.24	.09	0	.08			0	
24				.64	.31	.15	0	.11			0	
25				.64	.15	3.9	0	.05			0	
26				.64	.11	3.2	0	.03			0	
27				.64	.09	2.3	0	0			0	
28				.64	.09	.74	0	0			0	
29				.64	---	.37	0	0			0	
30				.64	---	.24	0	0			0	
31		---		.64	---	.15	---	0	---		0	---
TOTAL	0	0	0	166.86	4.66	17.13	.49	73.81	0	0	.44	0
MEAN	0	0	0	5.38	.17	.55	.016	2.38	0	0	.014	0
MAX	0	0	0	53	.64	3.9	.15	40	0	0	.44	0
MIN	0	0	0	0	.03	.05	0	0	0	0	0	0
AC-FT	0	0	0	331	9.2	34	1.0	146	0	0	.9	0
CAL YR 1976	TOTAL	209.05	MEAN .57	MAX 92	MIN 0	AC-FT 415						
WTR YR 1977	TOTAL	263.39	MEAN .72	MAX 53	MIN 0	AC-FT 522						

11110500 HOPPER CREEK NEAR PIRU, CA--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1976 to September 1977.

WATER TEMPERATURES: October 1976 to September 1977.

SEDIMENT RECORDS: October 1976 to September 1977.

PERIOD OF DAILY RECORD.--

SEDIMENT RECORDS: October 1976 to September 1977.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 714 mg/l Jan. 3, 1977; minimum daily mean, no flow on many days.

SEDIMENT DISCHARGE: Maximum daily, 397 tons (360 tonnes) Jan. 3, 1977; minimum daily, no flow on many days.

EXTREMES FOR CURRENT YEAR.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 714 mg/l Jan. 3; minimum daily mean, no flow on many days.

SEDIMENT DISCHARGE: Maximum daily, 397 tons (360 tonnes) Jan. 3; minimum daily, no flow on many days.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1				---	---	18.5	---	---				
2				---	11.5	20.0	22.0	---				
3				8.0	12.0	---	---	---				
4				5.5	---	---	---	---				
5				8.0	15.5	16.5	27.0	---				
6				7.5	---	---	---	---				
7				6.5	---	---	---	---				
8				9.5	---	---	---	---				
9				10.0	16.5	24.0	28.0	10.5				
10				---	---	---	---	21.5				
11				---	---	---	---	---				
12				---	---	---	---	---				
13				13.0	14.0	16.5	---	---				
14				---	---	---	---	18.0				
15				---	---	---	---	---				
16				---	---	16.5	---	---				
17				---	23.5	19.5	---	29.5				
18				11.0	---	---	---	---				
19				---	---	---	---	---				
20				---	---	---	---	30.5				
21				---	---	---	---	---				
22				15.0	20.0	19.5	---	---				
23				---	---	---	---	---				
24				---	---	---	---	23.5				
25				---	18.0	16.5	---	---				
26				19.0	---	20.5	---	---				
27				---	---	---	---	---				
28				---	---	---	---	---				
29				---	---	21.5	---	---				
30				14.0	---	---	---	---				
31				---	---	---	---	---				
MONTH				---	---	---	---	---				

11110500 HOPPER CREEK NEAR PIRU, CA--Continued

## SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	OCTOBER			NOVEMBER			DECEMBER		
	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									
23									
24									
25									
26									
27									
28									
29									
30									
31									
TOTAL	0	0	0	0	0	0	0	0	0

DAY	JANUARY			FEBRUARY			MARCH		
	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	0	0	0	.64	12	.02	.09	2	0
2	11	166	97	.45	8	.01	.09	1	0
3	53	714	397	.45	18	.02	.09	2	0
4	2.3	16	.13	.31	14	.01	.09	3	0
5	1.3	51	.37	.31	9	.01	.09	4	0
6	19	587	37	.31	10	.01	.09	4	0
7	28	277	25	.19	11	.01	.09	4	0
8	7.6	37	.76	.15	12	0	.09	3	0
9	5.3	23	.33	.15	13	.01	.05	3	0
10	3.3	22	.20	.11	13	0	.09	4	0
11	2.6	20	.14	.09	12	0	.07	6	0
12	2.8	18	.14	.09	11	0	.07	7	0
13	3.0	17	.14	.05	11	0	.07	8	0
14	3.0	17	.14	.07	9	0	.07	8	0
15	2.8	17	.13	.05	7	0	.09	8	0
16	3.0	17	.14	.05	5	0	1.7	34	.22
17	3.0	17	.14	.03	4	0	2.0	11	.06
18	2.5	17	.11	.03	4	0	.64	9	.02
19	3.2	15	.13	.03	4	0	.19	7	0
20	2.0	13	.07	.03	4	0	.09	5	0
21	1.3	11	.04	.03	4	0	.09	3	0
22	1.0	9	.02	.05	4	0	.05	2	0
23	.74	10	.02	.24	4	0	.09	2	0
24	.64	11	.02	.31	3	0	.15	3	0
25	.64	12	.02	.15	3	0	3.9	28	.29
26	.64	13	.02	.11	3	0	3.2	12	.10
27	.64	15	.03	.09	3	0	2.3	4	.02
28	.64	17	.03	.09	2	0	.74	3	.01
29	.64	18	.03	---	---	---	.37	2	0
30	.64	20	.03	---	---	---	.24	2	0
31	.64	16	.03	---	---	---	.15	2	0
TOTAL	166.86	---	559.36	4.66	---	.10	17.13	---	.72

## SANTA CLARA RIVER BASIN

11110500 HOPPER CREEK NEAR PIRU, CA--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	APRIL			MAY			JUNE		
	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	.15	3		0	0	0			
2	.15	3		0	0	0			
3	.07	3		0	0	0			
4	.04	4		0	0	0			
5	.02	4		0	0	0			
6	.01	4		0	0	0			
7	.01	5		0	0	0			
8	.01	6	20	171	34				
9	.01	6	40	331	50				
10	.02	6		6.0		.10			
11	0	0		2.1	5	.03			
12	0	0		1.7	4	.02			
13	0	0		1.6	3	.01			
14	0	0		.87	2	0			
15	0	0		.37	3	0			
16	0	0		.24	5	0			
17	0	0		.19	7	0			
18	0	0		.19	7	0			
19	0	0		.12	7	0			
20	0	0		.07	7	0			
21	0	0		.04	8	0			
22	0	0		.05	8	0			
23	0	0		.08	8	0			
24	0	0		.11	8	0			
25	0	0		.05	8	0			
26	0	0		.03	8	0			
27	0	0		0	0	0			
28	0	0		0	0	0			
29	0	0		0	0	0			
30	0	0		0	0	0			
31	---	---		0	0	0			
TOTAL	.49	---	0	73.81	---	84.16	0	0	0

DAY	JULY			AUGUST			SEPTEMBER		
	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1				0	0				
2				0	0				
3				0	0				
4				0	0				
5				0	0				
6				0	0				
7				0	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				.44	1				
19				0	0				
20				0	0				
21				0	0				
22				0	0				
23				0	0				
24				0	0				
25				0	0				
26				0	0				
27				0	0				
28				0	0				
29				0	0				
30				0	0				
31				0	0				
TOTAL	0	0	0	.44	---	0	0	0	0
YEAR	263.39		644.34						



11110500 HOPPER CREEK NEAR PIRU, CA--Continued

## SUMMARY OF WATER AND SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

MONTH	WATER DISCHARGE CFS-DAYS	SUSPENDED SEDIMENT DISCHARGE TONS	BEDLOAD DISCHARGE TONS	TOTAL SEDIMENT DISCHARGE TONS
OCTOBER 1976	0.0	0.0	0	0
NOVEMBER ...	0.0	0.0	0	0
DECEMBER ...	0.0	0.0	0	0
JANUARY 1977	166.86	559.36	25	584
FEBRUARY ...	4.66	0.10	0	0
MARCH .....	17.13	0.72	0	1
APRIL .....	0.49	0.0	0	0
MAY .....	73.81	84.16	12	96
JUNE .....	0.0	0.0	0	0
JULY .....	0.0	0.0	0	0
AUGUST .....	0.44	0.0	0	0
SEPTEMBER ..	0.0	0.0	0	0
TOTAL .....	263.39	644.34	37	681

## PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	TEMPER- ATURE (DEG C)	INSTAN- TANEOUS DIS- CHARGE (CFS)	SUS- PENDE SEDIM- ENT (MG/L)	SUS- PENDE SEDIM- ENT (T/DAY)	SUS. SED. FALL DIAM. % FINER THAN .002 MM	SUS. SED. FALL DIAM. % FINER THAN .004 MM	SUS. SED. FALL DIAM. % FINER THAN .008 MM
JAN								
03...	0915	8.0	27	202	15	40	57	68
03...	1215	10.5	14	100	4.0	--	--	--
03...	1600	11.0	7.9	57	1.2	--	--	--
07...	0945	6.5	36	496	48	30	42	54
MAR								
16...	1050	12.5	2.5	132	.89	--	--	--
MAY								
09...	1100	10.5	47	161	20	--	--	--
09...	1145	--	43	136	16	--	--	--

## SANTA CLARA RIVER BASIN

11110500 HOPPER CREEK NEAR PIRU, CA--Continued

## PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	SUS. SED. FALL DIAM. % FINER THAN .016 MM	SUS. SED. FALL DIAM. % FINER THAN .031 MM	SUS. SED. FALL DIAM. % FINER THAN .062 MM	SUS. SED. FALL DIAM. % FINER THAN .125 MM	SUS. SED. FALL DIAM. % FINER THAN .250 MM	SUS. SED. FALL DIAM. % FINER THAN .500 MM	SUS. SED. FALL DIAM. % FINER THAN 1.00 MM
JAN							
03...	78	86	91	95	97	98	100
03...	--	--	95	98	100	--	--
03...	--	--	95	98	99	100	--
07...	66	76	83	90	95	99	100
MAR							
16...	--	--	97	98	100	--	--
MAY							
09...	--	--	81	85	89	95	100
09...	--	--	82	86	89	93	100

## PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	NUMBER OF SAM- PLING POINTS	INSTAN- TANEOUS DIS- CHARGE (CFS)	BED MAT. SIEVE DIAM. % FINER THAN .062 MM	BED MAT. SIEVE DIAM. % FINER THAN .125 MM	BED MAT. SIEVE DIAM. % FINER THAN .250 MM	BED MAT. SIEVE DIAM. % FINER THAN .500 MM
SEP							
15...	1300	5	.00	8	16	22	29

DATE	BED MAT. SIEVE DIAM. % FINER THAN 1.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 2.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 4.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 8.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 16.0 MM	BED MAT. SIEVE DIAM. % FINER THAN 32.0 MM	BED MAT. SIEVE DIAM. % FINER THAN 64.0 MM
SEP							
15...	36	42	49	58	70	81	100

11110500 HOPPER CREEK NEAR PIRU, CA--Continued

PARTICLE-SIZE DISTRIBUTION OF BED SEDIMENT IN TRANSIT WITHIN 0.25 FT OF BED SURFACE,  
WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	TEMPER- ATURE (DEG C)	NUMBER OF SAM- PLING POINTS	INSTAN- TANEOUS DIS- CHARGE (CFS)	STREAM WIDTH (FT)	SEDI- MENT BEDLOAD DIS- CHARGE (T/DAY)	SED. BEDLOAD SIEVE DIAM. % FINER THAN .062 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN .125 MM
JAN								
03...	0930	8.0	17	23	9.0	19	0	0
03...	1610	11.0	16	7.9	8.5	.70	0	1
MAR								
16...	1430	16.5	10	2.3	4.8	.13	0	0
MAY								
09...	1520	11.5	13	41	15	1.2	0	1

DATE	SED. BEDLOAD SIEVE DIAM. % FINER THAN .250 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN .500 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 1.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 2.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 4.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 8.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 16.0 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 32.0 MM
JAN								
03...	1	3	20	42	66	84	97	100
03...	3	15	46	73	90	100	--	--
MAR								
16...	0	23	63	82	89	95	100	--
MAY								
09...	3	18	39	53	64	74	100	--

## SANTA CLARA RIVER BASIN

11111500 SESPE CREEK NEAR WHEELER SPRINGS, CA

LOCATION.--Lat 34°34'40", long 119°15'25", in SE¼NW¼SW¼ sec.30, T.6 N., R.22 W., Ventura County, on right bank at Sespe Gorge, 1.6 mi (2.6 km) upstream from Tule Creek, 5 mi (8 km) upstream from Cold Springs damsite, and 5 mi (8 km) northeast of Wheeler Springs.

DRAINAGE AREA.--49.5 mi<sup>2</sup> (128.2 km<sup>2</sup>).

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1947 to current year. Daily discharge for period October 1947 to July 1948 estimated on basis of weather records and records for North Fork Matilija Creek.

GAGE.--Water-stage recorder. Datum of gage is 3,500.65 ft (1,066.998 m) above mean sea level (levels by Ventura County Flood Control District).

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

AVERAGE DISCHARGE.--30 years, 9.98 ft<sup>3</sup>/s (0.283 m<sup>3</sup>/s), 7,230 acre-ft/yr (8.91 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,700 ft<sup>3</sup>/s (275 m<sup>3</sup>/s) Jan. 25, 1969, gage height, 13.60 ft (4.145 m), from rating curve extended above 3,000 ft<sup>3</sup>/s (85.0 m<sup>3</sup>/s) on basis of slope-area measurement of maximum flow; no flow many days in some years.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 50 ft<sup>3</sup>/s (1.42 m<sup>3</sup>/s) and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)		Gage height (ft) (m)	
Jan. 2	2345	145	4.11	3.45	1.052
May 9	0545	*194	5.49	3.69	1.125

Minimum daily discharge, 0.08 ft<sup>3</sup>/s (0.002 m<sup>3</sup>/s) Aug. 21-28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.8	1.4	1.0	1.0	2.8	1.7	2.1	2.1	3.6	.74	.14	.09
2	1.7	1.4	1.1	12	2.7	1.7	2.0	2.1	3.5	.74	.13	.09
3	1.1	1.4	1.2	40	2.5	1.7	2.0	1.8	3.1	.88	.13	.09
4	1.1	1.4	1.2	5.3	2.5	1.7	1.9	1.8	2.8	.88	.12	.10
5	1.1	1.4	1.2	3.1	2.5	1.6	1.8	1.8	2.6	.88	.12	.10
6	1.1	1.4	1.2	3.4	2.5	1.6	1.8	2.1	2.7	.88	.11	.10
7	1.1	1.4	1.2	3.4	2.5	1.6	2.0	3.1	2.5	.74	.11	.10
8	1.1	1.4	1.2	2.8	2.5	1.5	2.0	37	2.3	.74	.11	.10
9	1.1	1.4	1.2	3.4	2.4	1.4	2.1	125	2.4	.61	.10	.10
10	1.1	1.4	1.2	2.8	2.4	1.5	2.0	68	2.3	.50	.10	.10
11	1.1	1.4	1.2	2.8	2.3	1.6	2.0	56	2.5	.50	.10	.11
12	1.1	2.3	1.2	2.8	2.3	1.6	1.9	49	2.4	.50	.09	.11
13	1.1	1.4	1.2	3.1	2.2	1.6	1.9	42	2.2	.40	.09	.11
14	1.1	1.4	1.2	3.1	2.2	1.6	1.9	41	2.1	.40	.09	.11
15	1.1	1.4	1.2	2.8	2.1	1.6	1.9	35	2.3	.31	.09	.11
16	1.1	1.4	1.3	2.8	2.0	3.9	1.9	25	2.0	.24	.09	.11
17	1.1	1.4	1.4	2.8	2.0	3.6	1.9	19	1.9	.24	.37	.11
18	1.1	1.4	1.4	3.1	2.0	4.3	1.9	16	2.1	.24	.22	.12
19	1.1	1.4	1.5	3.4	2.0	3.9	1.9	13	1.8	.24	.10	.12
20	1.1	1.4	1.6	3.7	1.9	3.2	1.9	11	1.8	.24	.09	.12
21	3.3	1.4	1.5	4.4	1.8	2.7	1.9	9.5	1.6	.23	.08	.12
22	7.6	1.4	1.5	4.4	1.8	2.4	1.9	8.5	1.6	.22	.08	.12
23	3.1	1.3	1.5	4.0	2.0	2.0	1.9	8.2	1.4	.21	.08	.12
24	2.0	1.2	1.5	3.7	1.8	2.3	1.9	7.6	1.3	.20	.08	.12
25	1.5	1.2	1.5	3.4	1.9	3.1	1.8	6.8	1.2	.20	.08	.13
26	1.4	1.1	1.5	3.2	1.8	3.5	1.9	6.1	1.2	.19	.08	.13
27	1.4	1.1	1.6	3.1	1.8	2.7	1.9	5.8	1.1	.18	.08	.13
28	1.3	1.1	1.7	3.3	1.7	2.2	1.8	5.0	1.1	.17	.08	.13
29	1.3	1.0	1.7	3.1	---	2.2	1.8	4.4	1.1	.16	.09	.13
30	1.3	1.0	1.8	2.9	---	2.2	1.8	3.9	.88	.15	.09	.13
31	1.2	---	1.2	2.8	---	2.1	---	3.8	---	.15	.09	---
TOTAL	49.7	40.7	41.9	145.9	60.9	70.3	57.4	621.4	61.38	12.96	3.41	3.36
MEAN	1.60	1.36	1.35	4.71	2.18	2.27	1.91	20.0	2.05	.42	.11	.11
MAX	7.6	2.3	1.8	40	2.8	4.3	2.1	125	3.6	.88	.37	.13
MIN	1.1	1.0	1.0	1.0	1.7	1.4	1.8	1.8	.88	.15	.08	.09
AC-FT	99	81	83	289	121	139	114	1230	122	26	6.8	6.7
CAL YR 1976	TOTAL	1503.20	MEAN 4.11	MAX 294	MIN .08	AC-FT 2980						
WTR YR 1977	TOTAL	1169.31	MEAN 3.20	MAX 125	MIN .08	AC-FT 2320						

11111500 SESPE CREEK NEAR WHEELER SPRINGS, CA--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1956 (partial record station), February 1962 to current year.  
 SEDIMENT RECORDS: Water year 1956 (partial record station).

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: February 1962 to current year.

INSTRUMENTATION.--Temperature recorder since February 1962.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum, 29.5°C July 25, 1977; minimum, 0.0°C on several days in several years.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum, 29.5°C July 25; minimum, 0.0°C Dec. 25, Jan. 9.

## TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	15.0	13.0	14.0	11.0	5.5	8.5	6.0	2.0	4.0	6.5	4.0	5.0
2	16.5	11.5	13.5	11.0	6.0	8.5	6.0	2.0	4.0	6.5	4.5	5.5
3	17.0	11.0	13.5	12.0	7.0	9.5	5.5	2.0	4.0	4.5	2.5	3.5
4	16.5	10.0	13.0	11.5	7.0	9.5	5.5	2.0	4.0	5.0	3.0	4.0
5	16.5	10.0	13.5	11.5	6.5	9.5	6.5	3.0	4.5	4.0	1.5	3.0
6	17.5	11.0	14.0	11.5	6.5	9.0	5.0	1.5	3.0	3.0	0.5	1.5
7	18.0	11.0	14.0	11.5	6.5	9.0	5.5	1.5	3.5	3.5	0.5	2.0
8	18.0	11.0	14.0	11.0	6.5	9.0	5.5	1.5	3.5	3.5	1.0	2.0
9	16.5	9.0	13.0	10.5	6.5	8.5	5.5	2.0	3.5	2.5	0.0	1.5
10	16.0	9.5	12.5	11.0	6.5	9.0	4.5	1.5	3.5	3.5	0.5	2.0
11	16.5	10.0	13.0	10.0	6.5	8.5	5.0	2.0	3.5	4.0	0.5	2.0
12	17.5	11.0	13.5	10.0	8.0	9.0	4.5	1.0	3.0	3.5	0.5	2.5
13	15.5	9.0	12.0	10.0	6.0	8.5	4.5	1.5	3.0	4.0	1.0	2.5
14	16.5	8.5	12.0	12.0	8.5	10.0	5.0	1.5	3.0	4.0	1.0	2.5
15	16.5	8.5	12.0	11.0	8.0	9.5	5.5	2.0	3.5	4.0	1.0	2.5
16	14.5	8.0	11.5	10.5	7.0	9.0	5.5	3.0	4.5	4.0	0.5	3.0
17	14.5	8.0	11.5	11.5	8.0	9.5	4.5	1.0	2.5	4.5	1.5	3.0
18	14.0	8.5	11.5	11.0	8.0	9.5	5.5	1.5	3.0	7.0	3.5	5.0
19	15.0	9.0	12.0	10.5	7.0	9.0	5.0	2.0	3.5	7.0	3.5	5.5
20	13.5	10.0	12.0	10.0	6.0	8.0	5.0	2.0	3.5	7.5	4.5	6.0
21	15.5	11.5	13.0	9.0	5.0	7.5	4.0	1.0	2.5	9.0	5.5	7.0
22	13.0	9.5	11.0	9.0	5.5	7.5	4.0	1.0	2.5	9.0	6.0	7.5
23	14.0	9.5	11.5	8.5	5.0	7.0	3.5	1.0	2.0	8.5	4.0	6.5
24	13.5	8.0	10.0	8.0	4.5	6.5	4.0	0.5	2.0	7.0	3.0	5.5
25	14.0	7.5	9.5	8.5	5.0	6.5	3.0	0.0	1.5	7.0	3.5	5.5
26	13.5	6.5	9.5	8.5	5.5	7.0	4.5	0.5	2.0	7.0	3.5	5.5
27	11.5	7.0	9.5	5.0	2.0	3.5	4.0	0.5	2.0	8.5	2.5	6.0
28	11.0	5.5	8.5	3.0	0.5	2.0	4.0	0.5	2.0	8.5	5.0	7.0
29	10.5	5.5	8.5	4.5	0.5	2.5	5.0	1.0	3.0	7.5	4.0	6.0
30	10.5	6.0	8.5	5.0	1.5	3.5	5.5	2.5	4.5	7.0	2.0	5.0
31	10.5	5.5	8.0	---	---	---	7.0	4.0	5.5	7.0	2.0	5.0
MONTH	18.0	5.5	11.5	12.0	0.5	8.0	7.0	0.0	3.0	9.0	0.0	4.0

11111500 SESPE CREEK NEAR WHEELER SPRINGS, CA--Continued

## TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

FEBRUARY				MARCH			APRIL			MAY		
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	7.0	4.0	5.5	8.0	3.5	5.5	13.5	5.0	9.0	15.5	11.0	13.5
2	10.0	1.5	4.5	6.5	2.5	4.5	13.0	6.5	10.0	17.5	9.5	13.5
3	6.5	2.5	5.0	7.0	2.5	5.0	13.5	5.5	10.0	19.0	10.5	14.5
4	6.5	2.0	4.5	9.0	3.5	6.5	14.5	6.0	11.0	18.5	10.0	14.0
5	7.5	2.0	5.0	9.5	2.5	6.5	16.5	7.5	12.0	15.0	10.5	12.5
6	9.0	4.5	7.0	10.0	3.0	7.0	17.0	8.0	13.0	13.5	8.5	10.5
7	8.0	4.0	6.5	10.5	3.5	7.5	17.0	8.5	13.0	9.5	7.0	8.0
8	8.0	4.0	6.5	10.5	4.0	7.5	16.0	8.0	12.0	8.0	1.5	5.0
9	8.5	5.0	7.0	11.5	5.5	8.5	15.5	8.0	11.5	8.5	2.5	5.0
10	9.0	4.0	6.5	9.5	2.5	6.0	15.5	7.5	11.5	14.0	4.5	9.0
11	9.0	4.0	7.0	9.5	2.0	6.5	16.5	8.0	12.0	11.0	6.0	9.0
12	9.0	3.5	7.0	10.5	3.5	7.5	18.0	9.5	13.5	10.0	7.5	9.0
13	10.5	4.0	7.5	10.0	4.0	7.0	17.5	10.0	13.5	14.5	7.5	11.0
14	10.0	4.5	8.0	10.0	3.5	7.0	18.0	9.5	13.5	15.0	7.5	11.5
15	10.0	4.5	8.0	8.0	2.0	6.0	17.0	8.0	13.5	16.0	9.0	12.5
16	10.5	4.5	8.0	6.5	0.5	4.0	19.0	9.5	14.5	14.0	8.0	11.5
17	10.5	5.0	8.0	10.0	2.5	6.0	20.0	11.0	15.0	14.5	8.0	11.5
18	10.5	4.5	8.0	11.0	3.5	7.5	18.0	9.5	13.5	16.0	9.0	12.0
19	10.5	4.5	8.0	11.5	4.0	7.5	17.0	9.0	13.0	16.0	9.5	12.5
20	10.5	4.0	8.0	14.0	5.5	9.0	16.5	8.0	12.5	18.5	10.0	14.0
21	12.5	7.0	10.0	14.0	5.0	10.0	16.5	8.0	12.5	19.5	11.5	15.0
22	11.0	7.0	9.0	13.5	6.0	10.5	15.5	7.5	11.5	19.0	12.0	15.0
23	9.5	6.0	7.5	11.5	7.0	9.5	17.0	7.5	12.5	13.5	11.0	12.0
24	7.5	4.0	6.0	10.0	6.0	8.0	17.5	8.5	13.0	14.0	10.0	11.5
25	7.5	2.0	5.0	8.5	4.0	6.0	18.0	9.0	13.5	17.0	10.5	13.5
26	8.5	2.5	6.0	12.0	4.0	8.0	17.5	10.5	14.0	18.0	9.5	13.5
27	9.5	3.5	7.0	13.5	5.5	9.5	17.0	11.0	14.5	20.5	11.0	15.0
28	9.5	3.5	7.0	13.5	6.0	9.5	19.5	10.0	15.0	20.5	11.5	15.5
29	---	---	---	12.0	4.0	8.0	18.0	10.5	14.5	21.0	11.5	15.5
30	---	---	---	10.5	4.0	7.5	15.5	10.5	13.5	22.0	11.0	16.5
31	---	---	---	10.0	4.0	7.5	---	---	---	22.5	12.5	17.5
MONTH	12.5	1.5	7.0	14.0	0.5	7.5	20.0	5.0	12.5	22.5	1.5	12.5
JUNE				JULY			AUGUST			SEPTEMBER		
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	22.5	13.5	18.0	25.5	18.0	21.5	25.0	19.0	21.5	24.0	12.5	17.0
2	23.0	13.5	18.5	24.5	16.0	20.5	27.5	18.5	21.5	23.5	11.5	16.0
3	22.5	13.5	18.0	24.0	15.5	20.0	28.0	18.0	21.0	24.0	12.5	17.0
4	22.5	13.0	18.0	24.0	16.0	19.5	27.5	18.0	21.0	25.5	13.5	17.5
5	22.0	15.5	18.5	22.5	14.5	19.0	27.0	16.5	20.0	25.5	13.0	17.5
6	19.5	14.5	17.0	23.5	14.5	19.0	25.5	14.0	18.5	24.5	12.0	17.0
7	23.0	14.5	19.0	23.0	14.0	19.0	26.0	13.0	18.0	27.0	14.0	18.5
8	23.0	15.0	19.5	23.5	15.0	19.5	26.0	13.0	18.0	25.0	13.5	17.5
9	21.0	14.0	18.0	24.5	15.5	20.0	26.0	12.5	17.5	25.0	11.0	16.0
10	21.5	14.0	17.5	23.5	15.0	19.5	26.5	13.5	17.5	23.0	10.5	15.5
11	20.5	11.5	16.5	22.0	13.5	18.0	26.5	13.0	18.0	23.0	10.0	15.0
12	21.5	13.0	17.5	23.0	13.0	17.5	27.0	14.0	18.5	22.0	8.5	14.0
13	20.5	12.0	16.5	22.0	13.0	17.5	27.0	14.0	18.5	23.5	9.0	14.5
14	21.0	11.5	16.5	23.5	13.5	18.5	26.5	12.5	17.5	21.5	9.0	14.5
15	21.5	12.5	17.0	23.0	13.5	18.5	27.0	13.5	18.0	21.5	10.5	14.5
16	21.5	13.0	17.0	23.5	16.0	20.0	22.0	15.5	19.0	20.0	9.0	13.0
17	21.0	11.5	16.5	25.5	17.0	20.5	21.5	18.5	19.5	20.0	9.5	13.0
18	22.5	13.5	18.0	25.0	17.5	20.5	23.0	18.0	20.0	20.0	9.5	13.5
19	23.0	13.5	18.0	25.5	17.0	20.5	27.5	18.0	21.0	21.0	9.5	13.5
20	22.0	14.5	18.0	26.5	17.5	20.5	27.5	17.5	20.5	22.5	11.0	14.5
21	23.5	15.0	19.5	26.5	17.0	21.0	28.0	16.5	20.0	21.0	10.5	14.0
22	24.5	16.5	20.5	28.5	17.0	20.5	27.5	14.5	19.0	21.0	10.5	14.5
23	25.0	17.0	20.5	26.5	16.5	20.0	27.0	15.5	19.5	19.5	11.5	14.5
24	24.0	16.0	19.5	27.0	17.0	20.0	27.5	14.5	19.0	21.5	10.5	14.0
25	23.5	14.5	19.0	29.5	16.0	20.0	28.5	16.5	20.0	18.5	6.5	12.0
26	24.0	15.5	19.5	28.0	14.5	20.0	26.5	16.0	19.0	17.0	12.5	14.5
27	25.0	15.5	20.5	26.5	15.0	19.5	24.5	14.5	18.0	21.0	10.5	14.5
28	23.5	16.5	20.0	25.5	15.5	19.5	25.0	14.0	18.0	21.5	11.5	15.0
29	26.0	17.5	21.5	26.5	14.5	19.5	26.0	14.5	19.0	21.5	12.5	16.0
30	27.0	18.0	22.0	25.5	14.5	19.0	26.5	15.5	19.5	20.5	12.0	15.0
31	---	---	---	26.5	17.5	21.5	25.0	14.0	18.0	---	---	---
MONTH	27.0	11.5	18.5	29.5	13.0	19.5	28.5	12.5	19.0	27.0	6.5	15.0
YEAR	29.5	0.0	11.5									

## 11113000 SESPE CREEK NEAR FILLMORE, CA

LOCATION.--Lat 34°27'03", long 118°55'30", in NE&NW&NE& sec.12, T.4 N., R.20 W., Ventura County, on right bank 0.1 mi (0.2 km) downstream from Little Sespe Creek, and 3.5 mi (5.6 km) north of Fillmore.

DRAINAGE AREA.--251 mi<sup>2</sup> (650 km<sup>2</sup>).

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September 1911 to September 1913, October 1927 to current year; combined records of creek and canal, October 1927 to current year. Prior to 1935, published as "at Sespe."

GAGE.--Water-stage recorder on creek; water-stage recorder and Parshall flume on canal. Altitude of creek gage is 580 ft (177 m), from topographic map. Canal gage is at different datum. See WSP 1315-B for history of changes prior to Jan. 17, 1946.

REMARKS.--Records good. No regulation above station. Fillmore Irrigation Co. has diverted water 1 mi (2 km) upstream since September 1911. For records of combined discharge of Sespe Creek and Fillmore Irrigation Co.'s canal, see following page.

AVERAGE DISCHARGE.--Creek only: 52 years, 101 ft<sup>3</sup>/s (2.860 m<sup>3</sup>/s), 73,170 acre-ft/yr (90.2 hm<sup>3</sup>/yr).

Combined creek and canal: 50 years, 107 ft<sup>3</sup>/s (3.030 m<sup>3</sup>/s), 77,520 acre-ft/yr (95.6 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Creek only: Maximum discharge, 60,000 ft<sup>3</sup>/s (1,700 m<sup>3</sup>/s) Jan. 25, 1969, gage height, 20.80 ft (6.340 m), from rating curve extended above 22,000 ft<sup>3</sup>/s (623 m<sup>3</sup>/s) on basis of slope-area measurement at gage height 19.0 ft (5.79 m); maximum gage height, 24.95 ft (7.605 m) Feb. 25, 1969, from debris wave; no flow at times in some years.

Combined creek and canal: Maximum discharge, 60,000 ft<sup>3</sup>/s (1,700 m<sup>3</sup>/s) Jan. 25, 1969; minimum daily, 1.1 ft<sup>3</sup>/s (0.031 m<sup>3</sup>/s) July 31, Aug. 2, 1951.

EXTREMES FOR CURRENT YEAR.--Creek only: Maximum discharge, 1,020 ft<sup>3</sup>/s (28.9 m<sup>3</sup>/s) May 9, gage height, 11.49 ft (3.502 m), no peak above base of 1,300 ft<sup>3</sup>/s (36.8 m<sup>3</sup>/s); minimum daily, 0.20 ft<sup>3</sup>/s (0.006 m<sup>3</sup>/s) Sept. 15-17, 19, 20, 24-26.

Combined creek and canal: Maximum discharge, 1,020 ft<sup>3</sup>/s (28.9 m<sup>3</sup>/s) May 9, minimum daily, 2.7 ft<sup>3</sup>/s (0.076 m<sup>3</sup>/s) Sept. 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	44	2.1	1.7	14	27	9.6	22	2.5	23	1.0	.28	.37
2	27	1.6	1.8	88	24	11	21	1.4	20	1.1	.29	.35
3	22	1.4	1.2	221	22	7.9	20	1.2	13	.85	.30	.33
4	17	2.0	1.2	73	22	9.1	19	.83	10	.95	.31	.30
5	14	1.7	1.3	36	20	11	18	.64	9.0	.99	.30	.30
6	11	1.8	1.4	113	20	8.7	17	.63	9.5	.97	.30	.33
7	7.4	1.8	1.8	179	16	7.5	17	.88	9.3	.83	.29	.35
8	6.6	1.6	1.3	91	13	7.1	18	164	9.2	.76	.29	.33
9	5.2	1.7	1.3	66	13	7.5	18	753	8.6	.72	.29	.29
10	5.2	2.6	2.5	52	13	7.9	18	330	7.9	.60	.29	.28
11	5.2	3.0	2.1	42	11	7.5	15	159	6.7	.53	.31	.29
12	4.6	7.7	1.2	37	8.3	7.5	9.1	116	6.6	.51	.36	.28
13	4.4	7.7	1.5	34	8.3	7.1	8.3	99	6.1	.46	.38	.28
14	3.2	7.2	1.7	33	8.7	7.5	7.9	96	5.9	.51	.40	.21
15	2.7	4.2	1.8	31	8.3	7.5	7.9	110	5.3	.50	.35	.20
16	2.7	1.7	2.6	30	7.5	32	7.9	107	4.8	.49	.31	.20
17	2.7	2.3	2.0	29	7.5	33	7.5	83	3.6	.46	6.3	.20
18	2.5	1.2	1.3	31	7.1	29	7.1	67	2.1	.46	9.5	.23
19	2.3	1.2	1.3	42	7.1	19	6.8	59	1.9	.44	5.1	.20
20	1.9	1.3	1.2	35	7.9	11	6.4	53	2.0	.42	2.6	.20
21	2.4	1.4	1.3	35	8.7	10	4.6	50	2.3	.41	2.2	.24
22	1.8	1.6	2.5	35	9.1	9.1	2.0	46	2.2	.38	1.8	.23
23	1.7	2.2	2.0	34	14	9.1	2.0	45	1.7	.42	1.3	.23
24	2.8	3.2	1.4	33	11	10	2.0	44	1.7	.34	.60	.20
25	3.1	2.2	1.9	31	11	44	2.0	43	1.5	.32	.50	.20
26	4.7	1.4	1.9	30	8.3	38	2.0	40	1.4	.28	.43	.20
27	4.9	1.9	1.2	29	8.3	29	1.8	36	1.1	.26	.46	.23
28	4.1	1.4	2.2	29	7.5	26	2.0	33	1.0	.28	.64	.25
29	3.2	1.4	4.3	28	---	27	1.8	30	1.2	.27	.56	.37
30	2.3	1.4	11	27	---	25	1.9	28	1.1	.26	.44	.65
31	2.0	---	12	27	---	24	---	25	---	.26	.42	---
TOTAL	224.6	73.9	73.9	1615	349.6	499.6	294.0	2624.08	179.7	17.03	37.90	8.32
MEAN	7.25	2.46	2.38	52.1	12.5	16.1	9.80	84.6	5.99	.55	1.22	.28
MAX	44	7.7	12	221	27	44	22	753	23	1.1	9.5	.65
MIN	1.7	1.2	1.2	14	7.1	7.1	1.8	.63	1.0	.26	.28	.20
AC-FT	445	147	147	3200	693	991	583	5200	356	34	75	17
CAL YR 1976	TOTAL	11253.48	MEAN 30.7	MAX 2670	MIN .21	AC-FT 22320						
WTR YR 1977	TOTAL	5997.63	MEAN 16.4	MAX 753	MIN .20	AC-FT 11900						

## SANTA CLARA RIVER BASIN

11113000 SESPE CREEK NEAR FILLMORE, CA--Continued

COMBINED DISCHARGE, IN CUBIC FEET PER SECOND, OF SESPE CREEK AND FILLMORE  
IRRIGATION CO.'S CANAL NEAR FILLMORE, CA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	44	10	9.3	14	27	17	23	12	23	6.2	3.1	3.6
2	27	9.3	9.6	88	25	17	22	10	22	6.1	3.2	3.5
3	22	9.4	9.7	221	25	17	21	9.7	19	6.4	3.2	3.3
4	17	9.3	9.8	73	25	16	20	9.9	18	6.2	3.3	3.1
5	14	9.4	10	36	23	17	19	9.5	17	5.8	3.3	2.8
6	13	9.3	9.7	113	23	17	18	9.5	17	5.8	3.3	2.7
7	12	9.2	9.8	179	22	16	18	11	16	5.4	3.2	3.0
8	11	9.1	9.9	91	21	16	19	168	15	5.3	3.2	2.8
9	10	8.8	10	66	21	16	19	753	16	5.0	3.1	2.8
10	9.7	9.1	9.1	52	21	15	19	330	16	4.7	3.1	2.9
11	9.7	8.9	9.8	42	21	15	18	159	15	4.6	3.0	3.0
12	9.5	9.9	9.7	37	20	15	15	116	15	4.6	3.1	3.0
13	9.3	9.0	9.4	34	19	15	15	99	15	4.5	3.1	3.2
14	9.5	9.4	9.9	33	19	15	14	96	15	4.4	3.2	3.1
15	9.3	11	9.5	31	19	15	13	110	14	4.3	3.1	3.2
16	9.3	11	9.3	30	19	34	13	107	13	4.2	3.0	3.3
17	9.4	9.7	9.8	29	19	33	13	83	13	4.0	8.0	3.2
18	9.9	9.8	10	31	18	29	12	67	13	3.9	9.5	3.3
19	10	9.7	10	42	18	22	11	59	12	3.9	7.1	3.3
20	9.4	9.7	10	35	18	20	11	53	12	3.9	5.5	3.3
21	9.7	9.5	9.5	35	18	18	11	50	12	3.9	4.9	3.3
22	11	9.6	9.2	35	18	18	12	46	11	3.8	4.5	3.3
23	11	9.0	10	34	19	18	12	45	11	3.6	4.6	3.4
24	11	9.0	10	33	19	19	12	44	10	3.5	4.1	3.3
25	14	9.6	9.6	31	19	47	11	43	9.3	3.4	3.9	3.2
26	12	9.8	9.8	30	18	38	12	40	8.7	3.2	3.8	3.3
27	11	9.6	9.7	29	18	29	11	36	8.1	3.1	3.6	3.5
28	11	9.7	8.7	29	17	26	12	33	7.4	3.0	3.7	3.4
29	10	9.7	10	28	---	28	11	30	7.1	3.0	3.7	3.2
30	10	9.7	13	27	---	26	11	28	6.8	2.9	3.5	3.2
31	10	---	12	27	---	24	---	25	---	3.0	3.5	---
TOTAL	395.7	286.2	305.8	1615	569	668	448	2691.6	407.4	135.6	124.4	95.5
MEAN	12.8	9.54	9.86	52.1	20.3	21.5	14.9	86.8	13.6	4.37	4.01	3.18
MAX	44	11	13	221	27	47	23	753	23	6.4	9.5	3.6
MIN	9.3	8.8	8.7	14	17	15	11	9.5	6.8	2.9	3.0	2.7
AC-FT	785	568	607	3200	1130	1320	889	5340	808	269	247	189
CAL YR 1976	TOTAL	13027.4	MEAN	35.6	MAX	2670	MIN	3.4	AC-FT	25840		
WTR YR 1977	TOTAL	7742.2	MEAN	21.2	MAX	753	MIN	2.7	AC-FT	15360		



11113000 SESPE CREEK NEAR FILLMORE, CA--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1956-62, 1967 to current year.

CHEMICAL ANALYSES: Water years 1967 to current year.

WATER TEMPERATURES: Water years 1967 to current year.

SEDIMENT RECORDS: Water years 1956-62, 1967 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1969 to current year.

SEDIMENT RECORDS: October 1966 to current year.

INSTRUMENTATION.--Specific conductance recorder since October 1969.

REMARKS.--Periods of missing specific conductance data due to probe silted, not in contact with water, or recorder malfunction.

COOPERATION.--Chemical-quality records were furnished by California Department of Water Resources.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 1,450 micromhos Aug. 17, 1977; minimum, 185 micromhos Dec. 25, 1971.

WATER TEMPERATURES: (Water year 1970): Maximum 29.5°C July 4, 18, 20, 1970; minimum, 4.5°C Jan. 4, 1970.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 31,800 mg/l Jan. 25, 1969; minimum daily, 1 mg/l on many days in 1966-69 and 1976-77.

SEDIMENT DISCHARGE: Maximum daily, 2,950,000 tons (2,680,000 tonnes) Jan. 25, 1969; minimum daily, 0 tons on many days in most years.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 1,450 micromhos Aug. 17; minimum recorded, 314 micromhos May 9.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 5,010 mg/l Jan. 6; minimum daily, 0 mg/l on many days.

SEDIMENT DISCHARGE: Maximum daily, 9,040 tons (8,200 tonnes) May 9; minimum daily, 0 tons on many days.

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (JTU)	DISSOLVED OXYGEN (MG/L)
NOV 30...	1330	1.4	1120	8.3	18.9	0	10.9
FEB 03...	1435	22	1080	8.4	15.0	1	10.5
APR 20...	1200	6.4	1000	8.3	20.6	1	10.7
MAY 16...	1300	126	--	--	17.8	--	--
JUL 25...	1140	.30	970	8.1	28.9	0	10.8

DATE	HARDNESS (CA, MG) (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DISSOLVED SOLIDS (TONS PER AC-FT)	DISSOLVED SOLIDS (TONS PER DAY)	TOTAL MERCURY (UG/L)
NOV 30...	410	310	85	758	1.03	2.87	--
FEB 03...	380	290	46	731	.99	43.4	--
APR 20...	350	280	58	724	.98	12.5	--
MAY 16...	--	--	--	--	--	--	<.5
JUL 25...	370	290	58	707	.96	.57	--

## SANTA CLARA RIVER BASIN

11113000 SESPE CREEK NEAR FILLMORE, CA--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	884	795	836	1240	1070	1180	1190	1050	1130	1090	1070	1080
2	948	890	922	1230	1090	1190	1180	1080	1130	1090	340	977
3	985	953	969	1230	1080	1140	1190	1080	1150	1020	390	561
4	1010	991	998	1260	1120	1210	1220	1130	1180	1040	843	909
5	1030	1010	1020	1250	1100	1200	1250	1090	1190	881	767	852
6	1040	1020	1030	1310	1120	1220	1200	1080	1150	903	645	787
7	1060	1020	1040	1260	1120	1210	1190	1120	1160	763	601	663
8	1070	1040	1050	1260	1120	1210	1230	1110	1170	933	779	868
9	1080	1040	1060	1270	1140	1190	1220	1140	1190	986	916	956
10	1080	1050	1070	1200	1140	1170	1190	1120	1150	1010	992	1000
11	1080	1040	1070	1170	1140	1160	1170	1080	1130	1040	1010	1030
12	1090	1050	1070	1180	1060	1090	1190	1060	1150	1050	1030	1040
13	1090	1050	1080	1120	1100	1110	1190	1090	1150	1060	1040	1050
14	1130	1070	1100	1120	1110	1110	1180	1080	1140	1060	1040	1050
15	1150	1080	1120	1170	1120	1130	1200	1080	1140	1060	1050	1060
16	1140	1090	1120	1180	1110	1150	1140	1070	1120	1060	1040	1050
17	1150	1080	1120	1180	1120	1140	1180	1070	1130	1050	1030	1050
18	1200	1100	1140	1200	1120	1170	1200	1110	1160	1050	1030	1040
19	1230	1100	1170	1210	1120	1170	1210	1110	1170	1030	802	869
20	1220	1080	1150	1210	1130	1170	1200	1100	1160	952	904	930
21	1200	1100	1130	1180	1120	1160	1190	1090	1150	973	957	967
22	1220	1130	1190	1160	1090	1130	1160	1110	1140	976	966	972
23	1190	1100	1150	1150	1090	1130	1200	1120	1160	973	963	969
24	1210	1070	1140	1140	1100	1120	1210	1110	1170	978	966	971
25	1140	1080	1120	1220	1080	1140	1180	1100	1150	975	967	971
26	1140	1100	1120	1240	1160	1200	1180	1070	1140	978	958	970
27	1150	1110	1130	1210	1140	1170	1200	1110	1160	984	968	977
28	1160	1110	1140	1230	1130	1180	1260	1140	1190	986	974	980
29	1190	1130	1160	1210	1090	1150	1150	1130	1140	990	972	983
30	1300	1150	1200	1210	1060	1150	1280	978	1070	994	972	984
31	1290	1080	1200	---	---	---	1080	1050	1070	994	978	987
MONTH	1300	795	1090	1310	1060	1160	1280	978	1150	1090	340	953
DAY	FEBRUARY			MARCH			APRIL			MAY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	998	984	993	1040	1010	1020	996	974	984	1090	1020	1060
2	1000	900	991	1040	1010	1030	987	961	976	---	---	---
3	1000	976	993	1050	1010	1030	988	958	974	---	---	---
4	1010	980	997	1040	1010	1030	991	951	974	---	---	---
5	1010	958	991	1040	1010	1030	998	944	975	---	---	---
6	1010	944	988	1050	1000	1030	998	932	968	---	---	---
7	994	808	926	1050	1010	1030	1020	953	987	---	---	---
8	1030	852	939	1050	1010	1040	1000	972	990	1090	360	763
9	1030	834	939	1060	1020	1040	1010	977	993	568	314	451
10	---	---	---	1060	1020	1040	1010	973	993	636	520	570
11	---	---	---	1050	1020	1040	---	---	---	770	650	715
12	---	---	---	1060	1030	1050	---	---	---	840	774	813
13	---	---	---	1060	1020	1040	1020	978	997	851	821	830
14	---	---	---	1050	1020	1040	1010	973	993	865	845	855
15	---	---	---	1050	1010	1030	1020	969	993	854	780	821
16	---	---	---	1020	728	928	1000	970	990	810	688	734
17	---	---	---	952	810	913	1010	973	996	747	685	714
18	---	---	---	989	955	974	1010	970	996	769	715	750
19	---	---	---	999	983	993	1020	962	994	790	770	780
20	---	---	---	1010	993	1000	1020	967	997	805	793	799
21	---	---	---	1020	988	1010	---	---	---	817	803	809
22	---	---	---	1020	992	1010	---	---	---	820	808	814
23	---	---	---	1030	1010	1020	---	---	---	829	817	823
24	---	---	---	1030	993	1020	---	---	---	837	831	833
25	1030	988	1010	991	821	928	---	---	---	842	832	838
26	1040	993	1020	960	860	934	---	---	---	848	834	840
27	1030	985	1010	983	953	969	1150	1040	1090	846	836	841
28	1030	992	1010	993	973	982	1130	1010	1080	852	840	845
29	---	---	---	1010	986	995	1160	1000	1070	854	840	847
30	---	---	---	1010	993	998	---	---	---	856	840	847
31	---	---	---	1000	984	993	---	---	---	858	838	848
MONTH	---	---	---	1060	728	1010	---	---	---	1090	314	794

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
ONCE-DAILY

[illegible]

## SANTA CLARA RIVER BASIN

11113000 SESPE CREEK NEAR FILLMORE, CA--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	OCTOBER			NOVEMBER			DECEMBER		
	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	44	850	101	2.1	4	.02	1.7	2	.01
2	27	230	17	1.6	4	.02	1.8	1	0
3	22	100	5.9	1.4	3	.01	1.2	1	0
4	17	70	3.2	2.0	3	.02	1.2	1	0
5	14	41	1.5	1.7	4	.02	1.3	1	0
6	11	10	.30	1.8	4	.02	1.4	1	0
7	7.4	6	.12	1.8	3	.01	1.8	1	0
8	6.6	4	.07	1.6	3	.01	1.3	1	0
9	5.2	4	.06	1.7	2	.01	1.3	2	.01
10	5.2	4	.06	2.6	2	.01	2.5	2	.01
11	5.2	4	.06	3.0	2	.02	2.1	1	.01
12	4.6	4	.05	7.7	44	.96	1.2	1	0
13	4.4	4	.05	7.7	1	.02	1.5	0	0
14	3.2	4	.03	7.2	1	.02	1.7	0	0
15	2.7	3	.02	4.2	1	.01	1.8	0	0
16	2.7	2	.01	1.7	1	0	2.6	0	0
17	2.7	2	.01	2.3	1	.01	2.0	0	0
18	2.5	3	.02	1.2	1	0	1.3	0	0
19	2.3	3	.02	1.2	1	0	1.3	0	0
20	1.9	3	.02	1.3	1	0	1.2	0	0
21	2.4	3	.02	1.4	1	0	1.3	0	0
22	1.8	3	.01	1.6	2	.01	2.5	0	0
23	1.7	3	.01	2.2	2	.01	2.0	1	.01
24	2.8	2	.02	3.2	2	.02	1.4	1	0
25	3.1	2	.02	2.2	3	.02	1.9	1	.01
26	4.7	1	.01	1.4	3	.01	1.9	1	.01
27	4.9	4	.05	1.9	3	.02	1.2	1	0
28	4.1	5	.06	1.4	2	.01	2.2	1	.01
29	3.2	5	.04	1.4	2	.01	4.3	1	.01
30	2.3	6	.04	1.4	2	.01	11	70	3.1
31	2.0	5	.03	---	---	---	12	32	1.0
TOTAL	224.6	---	129.81	73.9	---	1.31	73.9	---	4.19

DAY	JANUARY			FEBRUARY			MARCH		
	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	14	30	1.1	27	5	.36	9.6	2	.05
2	88	1800	2830	24	5	.32	11	2	.06
3	221	3140	3740	22	4	.24	7.9	2	.04
4	73	335	85	22	4	.24	9.1	2	.05
5	36	336	41	20	3	.16	11	2	.06
6	113	5010	2090	20	3	.16	8.7	3	.07
7	179	4330	2400	16	3	.13	7.5	3	.06
8	91	700	172	13	2	.07	7.1	3	.06
9	66	320	57	13	2	.07	7.5	3	.06
10	52	227	32	13	2	.07	7.9	3	.06
11	42	134	15	11	3	.09	7.5	3	.06
12	37	40	4.0	8.3	3	.07	7.5	3	.06
13	34	26	2.4	8.3	2	.04	7.1	2	.04
14	33	11	.98	8.7	2	.05	7.5	2	.04
15	31	11	.92	8.3	1	.02	7.5	2	.04
16	30	11	.89	7.5	1	.02	32	1960	251
17	29	12	.94	7.5	0	0	33	40	3.6
18	31	12	1.0	7.1	0	0	29	6	.47
19	42	12	1.4	7.1	0	0	19	6	.31
20	35	13	1.2	7.9	0	0	11	6	.18
21	35	13	1.2	8.7	1	.02	10	6	.16
22	35	10	.94	9.1	1	.02	9.1	6	.15
23	34	8	.73	14	1	.04	9.1	6	.15
24	33	5	.45	11	2	.06	10	6	.16
25	31	3	.25	11	2	.06	44	381	45
26	30	2	.16	8.3	2	.04	38	10	1.0
27	29	4	.31	8.3	2	.04	29	7	.55
28	29	6	.47	7.5	2	.04	26	7	.49
29	28	8	.60	---	---	---	27	7	.51
30	27	7	.51	---	---	---	25	6	.41
31	27	6	.44	---	---	---	24	6	.39
TOTAL	1615	---	11482.89	349.6	---	2.43	499.6	---	305.34

11113000 SESPE CREEK NEAR FILLMORE, CA--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

APRIL				MAY				JUNE		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	
1	22	5	.30	2.5	1	.01	23	7	.43	
2	21	5	.28	1.4	2	.01	20	9	.49	
3	20	6	.32	1.2	2	.01	13	10	.35	
4	19	7	.36	.83	2	0	10	9	.24	
5	18	8	.39	.64	3	.01	9.0	8	.19	
6	17	9	.41	.63	3	.01	9.5	6	.15	
7	17	8	.37	.88	4	.01	9.3	5	.13	
8	18	7	.34	164	1910	1730	9.2	4	.10	
9	18	6	.29	753	4000	9040	8.6	4	.09	
10	18	5	.24	330	502	544	7.9	3	.06	
11	15	4	.16	159	180	77	6.7	2	.04	
12	9.1	4	.10	116	170	53	6.6	2	.04	
13	8.3	3	.07	99	160	43	6.1	2	.03	
14	7.9	3	.06	96	149	39	5.9	2	.03	
15	7.9	4	.09	110	109	32	5.3	2	.03	
16	7.9	4	.09	107	69	20	4.8	9	.12	
17	7.5	4	.08	83	29	6.5	3.6	16	.16	
18	7.1	4	.08	67	36	6.5	2.1	23	.13	
19	6.8	4	.07	59	43	6.8	1.9	20	.10	
20	6.4	4	.07	53	51	7.3	2.0	18	.10	
21	4.6	4	.05	50	44	5.9	2.3	15	.09	
22	2.0	4	.02	46	38	4.7	2.2	13	.08	
23	2.0	4	.02	45	31	3.8	1.7	14	.06	
24	2.0	4	.02	44	24	2.9	1.7	16	.07	
25	2.0	4	.02	43	9	1.0	1.5	18	.07	
26	2.0	4	.02	40	9	.97	1.4	21	.08	
27	1.8	4	.02	36	9	.87	1.1	24	.07	
28	2.0	3	.02	33	8	.71	1.0	27	.07	
29	1.8	2	.01	30	7	.57	1.2	27	.09	
30	1.9	1	.01	28	7	.53	1.1	27	.08	
31	---	---	---	25	6	.41	---	---	---	
TOTAL	294.0	---	4.38	2624.08	---	11627.52	179.7	---	3.77	

JULY				AUGUST				SEPTEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	
1	1.0	28	.08	.28	26	.02	.37	5	0	
2	1.1	28	.08	.29	29	.02	.35	5	0	
3	.85	24	.06	.30	34	.03	.33	4	0	
4	.95	20	.05	.31	38	.03	.30	4	0	
5	.99	15	.04	.30	42	.03	.30	4	0	
6	.97	23	.06	.30	37	.03	.33	3	0	
7	.83	31	.07	.29	32	.03	.35	4	0	
8	.76	39	.08	.29	27	.02	.33	4	0	
9	.72	40	.08	.29	22	.02	.29	4	0	
10	.60	42	.07	.29	26	.02	.28	5	0	
11	.53	44	.06	.31	30	.03	.29	6	0	
12	.51	45	.06	.36	33	.03	.28	6	0	
13	.46	45	.06	.38	27	.03	.28	6	0	
14	.51	44	.06	.40	21	.02	.21	7	0	
15	.50	44	.06	.35	15	.01	.20	4	0	
16	.49	39	.05	.31	10	.01	.20	6	0	
17	.46	34	.04	6.3	30	.51	.20	7	.65	
18	.46	29	.04	9.5	8	.21	.23	6	0	
19	.44	24	.03	5.1	7	.10	.20	6	0	
20	.42	24	.03	2.6	6	.04	.20	6	0	
21	.41	24	.03	2.2	5	.03	.24	5	0	
22	.38	25	.03	1.8	4	.02	.23	6	0	
23	.42	25	.03	1.3	3	.01	.23	7	0	
24	.34	25	.02	.60	3	0	.20	8	0	
25	.32	26	.02	.50	2	0	.20	8	0	
26	.28	26	.02	.43	2	0	.20	7	0	
27	.26	26	.02	.46	3	0	.23	7	0	
28	.28	24	.02	.64	4	.01	.25	7	0	
29	.27	23	.02	.56	5	.01	.37	6	.01	
30	.26	21	.01	.44	8	.01	.65	6	.01	
31	.26	24	.02	.42	5	.01	---	---	---	
TOTAL	17.03	---	1.40	37.90	---	1.34	8.32	---	.67	

YEAR	5997.63		23565.05						
------	---------	--	----------	--	--	--	--	--	--

## PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	TEMPER- ATURE (DEG C)	INSTAN- TANEOUS DIS- CHARGE (CFS)	SUS- PENDE SEDIM- ENT (MG/L)	SUS- PENDE SEDIM- ENT DIS- CHARGE (T/DAY)	SUS. SED. FALL DIAM. % FINER THAN .002 MM	SUS. SED. FALL DIAM. % FINER THAN .004 MM	SUS. SED. FALL DIAM. % FINER THAN .008 MM	SUS. SED. FALL DIAM. % FINER THAN .016 MM	SUS. SED. FALL DIAM. % FINER THAN .031 MM	SUS. SED. FALL DIAM. % FINER THAN .062 MM
OCT											
02...	1540	20.5	25	233	16	75	92	96	99	99	--
NOV											
12...	1045	15.0	4.0	243	2.6	70	90	97	100	--	--
DEC											
30...	0940	10.0	15	169	6.8	--	--	--	--	--	--
JAN											
03...	0920	8.0	114	836	257	36	51	62	76	86	95
03...	1515	10.5	58	389	61	42	60	75	87	95	99
04...	1100	7.0	71	184	35	--	--	--	--	--	--
07...	1140	8.0	189	2320	1180	27	39	51	66	81	92
MAR											
16...	1315	10.5	39	6200	653	36	53	70	80	82	--
25...	0930	10.5	46	876	109	40	61	80	93	97	--
MAY											
09...	1115	--	792	2940	6290	23	34	47	62	77	89
09...	1340	11.0	735	1460	2900	20	31	43	56	69	80
09...	1605	10.5	870	1830	4300	16	25	36	47	60	75

DATE	SUS. SED. SIEVE DIAM. % FINER THAN .062 MM	SUS. SED. FALL DIAM. % FINER THAN .125 MM	SUS. SED. SIEVE DIAM. % FINER THAN .125 MM	SUS. SED. FALL DIAM. % FINER THAN .250 MM	SUS. SED. SIEVE DIAM. % FINER THAN .250 MM	SUS. SED. FALL DIAM. % FINER THAN .500 MM	SUS. SED. FALL DIAM. % FINER THAN .500 MM	SUS. SED. FALL DIAM. % FINER THAN 1.00 MM	SUS. SED. FALL DIAM. % FINER THAN 1.00 MM	SUS. SED. SIEVE DIAM. % FINER THAN 2.00 MM
OCT										
02...	100	--	--	--	--	--	--	--	--	--
NOV										
12...	--	--	--	--	--	--	--	--	--	--
DEC										
30...	99	--	100	--	--	--	--	--	--	--
JAN										
03...	--	99	--	100	--	--	--	--	--	--
03...	--	100	--	--	--	--	--	--	--	--
04...	95	--	98	--	99	--	100	--	--	--
07...	--	98	--	100	--	--	--	--	--	--
MAR										
16...	82	--	83	--	83	--	85	--	90	98
25...	99	--	99	--	100	--	--	--	--	--
MAY										
09...	--	96	--	99	--	100	--	--	--	--
09...	--	90	--	98	--	100	--	--	--	--
09...	--	86	--	95	--	99	--	100	--	--

11113000 SESPE CREEK NEAR FILLMORE, CA--Continued

## SUMMARY OF WATER AND SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

MONTH	WATER DISCHARGE CFS-DAYS	SUSPENDED SEDIMENT DISCHARGE TONS	BEDLOAD DISCHARGE TONS	TOTAL SEDIMENT DISCHARGE TONS
OCTOBER 1976	224.60	129.81	11	141
NOVEMBER ...	73.90	1.31	0	1
DECEMBER ...	73.90	4.19	1	5
JANUARY 1977	1615.00	11482.89	450	11900
FEBRUARY ...	349.60	2.43	13	15
MARCH .....	499.60	305.34	32	337
APRIL .....	294.00	4.38	10	14
MAY .....	2624.08	11627.52	2520	14100
JUNE .....	179.70	3.77	4	8
JULY .....	17.03	1.40	0	1
AUGUST .....	37.90	1.34	0	1
SEPTEMBER ..	8.32	0.67	0	1
TOTAL .....	5997.63	23565.05	3041	26524

PARTICLE-SIZE DISTRIBUTION OF BED SEDIMENT IN TRANSIT WITHIN 0.25 FT OF BED SURFACE,  
WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	TEMPER- ATURE (DEG C)	NUMBER OF SAM- PLING POINTS	INSTAN- TANEOUS DIS- CHARGE (CFS)	STREAM WIDTH (FT)	SEDI- MENT BEDLOAD DIS- CHARGE (T/DAY)	SED. BEDLOAD SIEVE DIAM. % FINER THAN .062 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN .125 MM
JAN								
04...	1015	7.0	19	74	38	6.0	0	0
04...	1040	7.0	19	73	38	17	0	0
12...	0955	6.0	21	39	22	22	0	0
26...	1515	12.5	21	30	22	5.5	0	0
MAR								
16...	1235	11.0	22	39	22	27	0	0
25...	0945	10.5	21	45	21	6.4	0	0
MAY								
16...	1400	18.0	18	126	40	15	0	0
25...	1240	15.0	17	43	26	.90	1	1

DATE	SED. BEDLOAD SIEVE DIAM. % FINER THAN .250 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN .500 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 1.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 2.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 4.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 8.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 16.0 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 32.0 MM
JAN								
04...	1	6	21	53	82	98	100	--
04...	1	3	9	26	59	87	100	--
12...	2	7	17	38	67	88	98	100
26...	2	10	23	47	73	89	100	--
MAR								
16...	2	10	22	42	75	93	100	--
25...	2	8	22	48	79	93	100	--
MAY								
16...	5	33	66	84	94	99	100	--
25...	4	24	51	66	75	88	100	--

## SANTA CLARA RIVER BASIN

11113300 SANTA CLARA RIVER NEAR SANTA PAULA, CA

LOCATION.--Lat 34°21'14", long 119°01'38", in sec.12, T.3 N., R.21 W., Ventura County.

PERIOD OF RECORD.--Chemical analyses: Water year 1967 to July 1971, water years 1972 to current year (partial-record station).

COOPERATION.--Records were furnished by California Department of Water Resources.

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)
NOV 30...	1155	1900	8.1	19.5	0	11.0	560	200
FEB 03...	1710	1860	7.9	15.0	2	9.6	480	180
APR 20...	1230	1820	8.1	24.5	2	11.4	530	190
JUL 25...	0925	1840	8.0	24.5	1	10.8	550	200

DATE	DIS- SOLVED MAG- NE- SIUM (MG)	DIS- SOLVED SODIUM (NA) (MG/L)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	ALKA- LINITY AS CACO3 (MG/L)	CARBON DIOXIDE (CO2) (MG/L)
NOV 30...	76	150	28	2.3	6.0	320	0	260	4.1
FEB 03...	68	130	28	2.1	5.0	300	0	240	6.0
APR 20...	75	140	28	2.2	6.0	310	0	260	3.9
JUL 25...	74	140	27	2.1	6.0	310	0	260	5.0

DATE	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	DIS- SOLVED SOLIDS (TONS PER AC-FT)	DIS- SOLVED NITRATE (N) (MG/L)	DIS- SOLVED NITRATE (NO3) (MG/L)	DIS- SOLVED BORON (B) (UG/L)
NOV 30...	750	62	1.1	0	.00	4.7	21	970
FEB 03...	640	67	1.5	1350	1.84	.38	1.7	900
APR 20...	700	58	1.3	1510	2.05	4.5	20	980
JUL 25...	710	60	8.0	1470	2.00	3.8	17	580



## 11113500 SANTA PAULA CREEK NEAR SANTA PAULA, CA

LOCATION.--Lat 34°23'44", long 119°04'32", in NW¼SW¼SW¼ sec.27, T.4 N., R.21 W., Ventura County, on right bank upstream from Santa Paula Water Works diversion dam, 200 ft (61 m) upstream from Mud Creek, and 3 mi (5 km) north of Santa Paula.

DRAINAGE AREA.--40.0 mi<sup>2</sup> (103.6 km<sup>2</sup>).

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1927 to current year. March 1912 to September 1913, at site 2.5 mi (4.0 km) upstream; records not equivalent.

GAGE.--Water-stage recorder and concrete diversion dam control. Datum of gage is 619.43 ft (188.802 m) above mean sea level (Corps of Engineers bench mark). Oct. 1, 1927, to Feb. 19, 1931, at site 500 ft (152 m) downstream at different datum. Feb. 20, 1931, to Dec. 5, 1963, and July 30, 1965, to March 7, 1973 at site 50 ft (15 m) downstream. Feb. 20, 1931 to May 5, 1969 at datum 3.00 ft (0.914 m) higher.

REMARKS.--Records fair. No regulation above station. Diversion above station for irrigation of 60 acres (243,000 m<sup>2</sup>) by Santa Paula Water Works began prior to October 1927; 331 acre-ft (408,000 m<sup>3</sup>) was diverted during current year.

COOPERATION.--Records of diversion were furnished by Santa Paula Water Works.

AVERAGE DISCHARGE.--50 years, 20.9 ft<sup>3</sup>/s (0.592 m<sup>3</sup>/s), 15,140 acre-ft/yr (18.7 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,000 ft<sup>3</sup>/s (595 m<sup>3</sup>/s) Feb. 25, 1969, gage height, 18.18 ft (5.541 m), from floodmark, present datum, from rating curve extended above 2,300 ft<sup>3</sup>/s (65.1 m<sup>3</sup>/s) on basis of critical-depth measurement at gage height 15.2 ft (4.63 m); no flow at times in 1949, 1951-52, 1965.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 134 ft<sup>3</sup>/s (3.79 m<sup>3</sup>/s) Jan. 2, gage height, 6.84 ft (2.085 m), no peak above base of 200 ft<sup>3</sup>/s (5.66 m<sup>3</sup>/s); minimum daily, 0.35 ft<sup>3</sup>/s (0.010 m<sup>3</sup>/s) July 22.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.2	2.0	1.8	3.2	5.6	2.6	2.6	2.1	3.1	1.4	.72	.51
2	3.8	1.8	1.7	20	5.3	2.7	2.6	2.0	3.0	1.8	.73	.60
3	3.6	1.8	1.7	34	5.0	2.7	2.5	1.8	2.8	1.9	.68	.95
4	3.7	1.8	1.7	9.9	5.1	2.6	2.5	1.9	2.7	1.9	.70	1.0
5	3.4	1.9	1.7	11	4.8	2.6	2.5	2.0	2.6	1.6	.73	.90
6	3.4	2.1	1.7	30	4.6	2.6	2.3	2.0	2.9	1.3	.82	.79
7	3.1	2.1	1.8	28	3.9	2.7	2.3	2.0	3.0	1.2	.84	.74
8	3.0	1.6	1.9	11	3.7	2.5	2.5	2.0	2.9	1.2	.83	.74
9	2.7	1.5	2.0	7.0	3.7	2.4	2.6	60	2.3	1.1	1.2	.84
10	2.4	1.5	2.0	6.9	3.6	2.3	2.5	23	2.0	1.2	1.3	.84
11	2.3	1.7	2.0	6.8	3.4	2.4	2.6	13	1.9	1.1	1.3	.60
12	2.0	3.1	2.0	6.7	3.3	2.4	2.7	10	1.8	1.1	1.3	.60
13	1.9	2.6	2.0	6.6	3.3	2.5	2.3	8.9	1.9	1.1	1.2	.65
14	2.0	2.5	2.0	6.7	3.3	2.5	2.5	9.2	1.8	1.2	1.0	.65
15	2.1	2.1	1.8	7.0	3.2	2.4	2.4	12	1.8	1.5	.69	.72
16	2.2	1.8	1.6	7.1	3.1	7.7	2.3	13	1.6	1.6	.65	.81
17	2.2	1.7	1.7	6.9	3.0	4.9	2.5	11	1.6	1.5	2.1	.72
18	2.2	1.7	1.7	7.0	2.9	3.9	2.3	9.1	1.7	1.5	1.5	.68
19	2.2	1.9	1.7	9.1	2.9	3.1	1.9	7.7	2.3	1.8	1.1	.86
20	2.1	2.1	1.7	8.1	2.8	2.9	2.2	6.7	2.2	.88	1.2	1.1
21	2.1	2.1	1.7	7.4	2.8	2.8	2.3	6.1	2.0	.38	1.2	1.3
22	4.9	2.0	1.6	7.0	2.7	2.6	2.2	5.8	1.9	.35	1.2	1.3
23	3.7	2.0	1.7	6.8	3.8	2.7	2.1	6.0	1.8	.40	1.2	1.3
24	3.6	2.0	1.9	6.8	4.5	3.0	2.0	5.6	1.8	.62	1.2	1.3
25	3.4	2.0	1.9	6.8	4.3	11	1.8	5.1	1.7	.89	.84	1.2
26	3.3	2.1	1.8	6.6	3.4	4.9	1.8	4.8	1.7	.50	.69	1.2
27	3.2	2.0	1.7	6.3	3.1	3.5	1.8	4.5	1.6	.45	.74	1.2
28	2.5	2.0	1.7	6.1	2.8	3.2	2.0	4.3	1.5	.43	.79	1.2
29	2.1	2.0	1.8	5.9	---	3.0	2.0	4.1	1.5	.45	.51	1.2
30	2.1	2.0	4.1	5.7	---	2.8	2.1	3.9	1.4	.48	.47	1.2
31	2.2	---	3.5	5.6	---	2.7	---	3.2	---	.65	.51	---
TOTAL	87.6	59.5	59.6	304.0	103.9	102.6	68.7	252.8	62.8	33.48	29.94	27.70
MEAN	2.83	1.98	1.92	9.81	3.71	3.31	2.29	8.15	2.09	1.08	.97	.92
MAX	4.9	3.1	4.1	34	5.6	11	2.7	60	3.1	1.9	2.1	1.3
MIN	1.9	1.5	1.6	3.2	2.7	2.3	1.8	1.8	1.4	.35	.47	.51
AC-FT	174	118	118	603	206	204	136	501	125	66	59	55
CAL YR 1976	TOTAL	1943.68	MEAN	5.31	MAX	288	MIN	.16	AC-FT	3860		
WTR YR 1977	TOTAL	1192.62	MEAN	3.27	MAX	60	MIN	.35	AC-FT	2370		

11113500 SANTA PAULA CREEK NEAR SANTA PAULA, CA--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1967 to current year.  
 CHEMICAL ANALYSES: Water years 1967 to current year.

PERIOD OF DAILY RECORD.--  
 SPECIFIC CONDUCTANCE: April 1969 to current year.  
 WATER TEMPERATURES: April 1969 to September 1970.

INSTRUMENTATION.--Specific-conductance recorder since April 1969. Water temperature recorder April 1969 to September 1970.

REMARKS.--Missing specific-conductance data due to equipment malfunction. Figures of specific-conductance data for June through September 1976, omitted from the 1976 report, are published in the 1977 report.

COOPERATION.--Chemical-quality data was furnished by California Department of Water Resources.

EXTREMES FOR PERIOD OF DAILY RECORD.--  
 SPECIFIC CONDUCTANCE: Maximum recorded, 1,450 micromhos Feb. 7, 1976; minimum recorded, 191 micromhos Mar. 8, 1975.

EXTREMES FOR CURRENT YEAR.--  
 SPECIFIC CONDUCTANCE: Maximum, 1,210 micromhos Sept. 7; minimum, 390 micromhos May 9.

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	INSTANTANEOUS DIS-CHARGE (CFS)	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (JTU)	DIS-SOLVED OXYGEN (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLORIDE (CL) (MG/L)	DIS-SOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)
NOV 30...	1120	2.0	960	8.4	12.8	0	11.3	220	48	591	.80	3.19
FEB 03...	1555	5.0	900	8.1	15.0	1	9.8	200	32	595	.81	8.03
APR 20...	1300	2.2	920	8.0	23.3	1	9.6	200	40	616	.84	3.66
JUL 25...	0805	.80	1020	8.1	21.1	0	9.7	212	60	693	.94	1.50



## SANTA CLARA RIVER BASIN

11113500 SANTA PAULA CREEK NEAR SANTA PAULA, CA--Continued

## SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	1100	1060	1080	990	880	955	1020	907	982	1030	948	1000
2	1070	1030	1050	994	876	955	1010	917	978	1030	412	898
3	1060	994	1040	992	866	949	1010	903	974	918	620	762
4	1050	978	1030	990	864	949	999	893	963	960	924	949
5	1050	964	1020	992	864	953	992	896	958	960	616	902
6	1040	936	1000	990	870	952	992	890	959	1110	508	785
7	1020	926	993	982	866	945	988	900	957	920	752	856
8	1020	914	987	974	864	939	990	890	958	954	908	940
9	1010	910	982	978	864	941	979	881	945	953	933	944
10	1010	906	979	972	860	935	981	889	945	951	931	945
11	1030	892	971	970	886	940	973	881	939	947	923	937
12	998	876	958	970	860	923	969	879	938	937	911	929
13	998	874	960	974	888	949	976	862	936	929	899	915
14	994	876	957	976	932	960	970	876	937	904	858	879
15	990	862	949	974	880	945	968	858	935	862	828	847
16	978	866	941	982	878	947	972	874	938	844	816	831
17	974	862	938	978	878	944	1000	901	958	839	801	826
18	970	866	935	998	892	959	1030	917	988	827	773	803
19	964	856	929	1010	892	969	1050	940	1010	767	719	737
20	968	888	940	1020	912	984	1040	928	1000	768	754	762
21	962	842	925	1020	914	984	1050	957	1010	780	758	772
22	1080	642	942	1030	930	995	1050	939	1010	792	760	776
23	978	918	957	1020	920	987	1060	968	1030	794	758	779
24	978	910	956	1030	930	994	1060	974	1030	799	765	791
25	984	892	955	1030	914	988	1060	959	1020	801	785	794
26	982	890	953	1030	926	988	1060	951	1020	815	781	799
27	988	886	955	1040	952	1010	1060	952	1020	820	784	806
28	992	892	960	---	---	---	1040	944	1000	822	790	813
29	994	888	957	---	---	---	1040	924	997	824	780	808
30	994	894	963	1030	920	991	1060	844	992	825	771	806
31	992	888	957	---	---	---	1030	956	1000	835	781	816
MONTH	1100	642	972	1040	860	962	1060	844	978	1110	412	845
DAY	FEBRUARY			MARCH			APRIL			MAY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	831	773	809	914	818	881	932	826	898	1010	922	967
2	840	784	817	940	816	885	926	834	892	981	903	948
3	854	774	829	930	824	886	927	817	885	985	931	963
4	856	792	838	944	832	903	917	809	879	984	918	960
5	856	776	833	959	837	912	916	806	875	989	937	974
6	856	772	832	951	837	911	918	814	887	984	934	961
7	862	772	837	956	836	911	920	820	885	976	932	954
8	868	776	840	960	836	917	919	821	884	955	455	784
9	872	772	841	961	845	919	911	835	885	730	390	495
10	876	768	843	965	845	923	914	836	886	707	525	636
11	874	764	844	964	842	919	918	808	878	722	678	705
12	882	760	847	960	840	916	915	823	877	727	703	718
13	882	758	849	965	843	919	929	845	888	729	715	722
14	884	758	849	955	841	914	936	844	894	732	660	688
15	884	756	848	956	856	913	932	844	893	673	591	621
16	890	758	851	944	864	829	935	843	901	617	573	588
17	896	766	856	921	833	880	923	845	900	624	598	608
18	892	770	855	933	851	903	932	840	897	651	611	634
19	890	766	854	942	850	906	956	872	920	672	636	658
20	892	782	857	936	836	899	941	859	904	694	662	677
21	896	788	862	930	822	893	935	853	901	712	674	695
22	898	788	865	933	827	896	936	854	900	732	688	710
23	900	854	878	943	865	914	938	862	906	742	716	730
24	896	824	869	930	852	898	937	871	908	751	723	739
25	898	802	867	906	480	789	939	877	911	757	721	744
26	908	808	877	945	871	911	938	868	909	761	709	740
27	910	810	875	947	859	917	936	892	919	767	709	748
28	916	802	874	946	866	913	929	859	902	773	711	752
29	---	---	---	940	850	909	979	885	925	775	717	758
30	---	---	---	939	855	906	1000	920	966	791	723	767
31	---	---	---	933	859	904	---	---	---	803	719	770
MONTH	916	756	850	965	480	900	1000	806	899	1010	390	755



## SANTA CLARA RIVER BASIN

11113900 SATICOY DIVERSION NEAR SATICOY, CA

LOCATION (REVISED).--Lat 34°17'35", long 119°06'00", in Santa Paula Y Saticoy Grant, Ventura County, on diversion works at Santa Clara River, 1.9 mi (3.1 km) east of Saticoy.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1969 to current year. October 1928 to April 1969 in files of United Water Conservation District.

GAGE.--Water-stage recorder. Altitude of gage is 160 ft (49 m), from topographic map.

REMARKS.--Water is diverted from left bank of Santa Clara River to percolation basin near Los Angeles Avenue (State Highway 118) and for irrigation in Pleasant Valley. Imported water from the California Water Project released to the basin at Castaic Dam and Pyramid Dam since 1972.

COOPERATION.--Records were furnished by United Water Conservation District; one discharge measurement was made by Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 411 ft<sup>3</sup>/s (11.6 m<sup>3</sup>/s) Mar. 15, 1975; no flow at times in most years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	81	16	14	19	52	33	35	27	37	15	9.4	5.0
2	57	18	13	27	51	33	37	27	34	16	9.7	4.5
3	45	18	14	18	50	33	37	27	34	16	9.0	4.5
4	40	18	13	78	50	32	37	25	33	18	9.0	5.0
5	40	18	13	94	50	32	41	25	31	19	8.7	5.3
6	40	17	14	154	51	33	37	26	29	15	9.4	8.4
7	34	17	12	164	50	32	42	25	29	12	10	6.4
8	32	16	12	163	48	31	41	60	27	12	10	5.5
9	31	14	12	144	45	31	39	97	27	14	10	4.5
10	31	14	11	118	43	32	40	164	27	16	9.7	3.2
11	30	15	11	104	40	31	39	144	25	17	9.4	2.6
12	29	19	12	94	38	32	39	128	25	17	9.4	4.0
13	31	17	12	69	38	32	39	108	27	14	8.7	5.5
14	31	17	11	68	38	33	38	94	25	14	8.4	7.2
15	29	18	11	67	36	31	37	102	24	14	8.4	5.8
16	26	17	10	65	36	61	37	111	23	15	7.8	5.5
17	26	15	11	60	30	63	37	99	21	16	13	5.3
18	27	14	11	52	32	48	37	77	20	17	15	5.3
19	25	14	12	58	37	46	35	66	21	17	9.4	5.3
20	21	14	12	60	37	44	33	62	21	17	9.0	5.5
21	19	14	13	59	34	40	31	58	23	17	7.5	5.3
22	23	15	12	57	27	34	32	51	20	17	7.5	3.7
23	26	14	13	56	31	34	32	51	19	16	7.2	3.5
24	23	14	12	56	38	34	32	52	18	16	6.1	3.5
25	25	14	12	56	37	126	30	51	18	16	6.1	3.7
26	23	16	13	56	36	72	29	50	18	15	5.8	3.5
27	21	15	14	56	36	54	27	47	19	14	5.8	3.3
28	20	16	14	55	35	48	28	45	18	14	6.4	3.1
29	21	16	13	55	---	44	27	43	16	14	6.7	2.9
30	19	15	20	55	---	44	27	41	16	13	6.1	2.9
31	16	---	21	53	---	41	---	39	---	9.4	5.8	---
TOTAL	942	475	398	2290	1126	1314	1052	2022	725	472.4	264.4	139.7
MEAN	30.4	15.8	12.8	73.9	40.2	42.4	35.1	65.2	24.2	15.2	8.53	4.66
MAX	81	19	21	164	52	126	42	164	37	19	15	8.4
MIN	16	14	10	18	27	31	27	25	16	9.4	5.8	2.6
AC-FT	1870	942	789	4540	2230	2610	2090	4010	1440	937	524	277
CAL YR 1976	TOTAL	11220.20	MEAN	30.7	MAX	330	MIN	0	AC-FT	22260		
WTR YR 1977	TOTAL	11220.50	MEAN	30.7	MAX	164	MIN	2.6	AC-FT	22260		

11113900 SATICOY DIVERSION NEAR SATICOY, CA--Continued

## WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: April 1969 to current year.

WATER TEMPERATURES: April 1969 to September 1970.

INSTRUMENTATION.--Specific conductance recorder since April 1969.

REMARKS.--Interruptions in record were due to malfunctions of the instrument.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum 2,320 micromhos Oct. 21, 1972; minimum, 564 micromhos May 9, 1977.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum recorded, 2,200 micromhos Oct. 23; minimum recorded, 564 micromhos May 9.

## SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	1300	1100	1180	1860	1800	1840	1900	1870	1890	1840	1800	1830
2	1470	1310	1410	1870	1820	1860	1930	1880	1900	1850	1150	1750
3	1630	1470	1560	1900	1850	1870	1940	1910	1930	1090	856	927
4	1780	1640	1700	1890	1830	1870	1950	1920	1940	1150	866	985
5	1740	1590	1680	1880	1850	1870	1950	1910	1930	1330	1150	1250
6	1650	1590	1630	1910	1840	1880	1930	1880	1910	1310	842	1060
7	1730	1650	1700	1890	1820	1870	1930	1910	1920	1050	822	949
8	1780	1720	1750	1890	1850	1870	1930	1900	1910	1340	1030	1220
9	1770	1730	1760	1940	1900	1920	1930	1890	1910	1460	1350	1410
10	1790	1760	1780	1950	1890	1930	1930	1910	1920	1520	1460	1490
11	1810	1760	1790	1920	1810	1890	---	---	---	1570	1520	1540
12	1840	1790	1820	1860	1620	1770	1930	1910	1920	1600	1570	1580
13	1880	1700	1820	1860	1830	1840	1920	1890	1910	1620	1590	1600
14	1830	1700	1750	1890	1850	1870	1930	1850	1900	1640	1610	1620
15	1850	1790	1830	1870	1790	1850	1940	1910	1930	1640	1620	1630
16	1870	1800	1840	1910	1880	1900	1970	1920	1940	1630	1620	1630
17	1860	1790	1830	1910	1880	1900	1970	1940	1950	1640	1630	1640
18	1850	1770	1820	1910	1820	1880	1960	1920	1940	1650	1620	1630
19	1850	1780	1820	1920	1890	1900	1920	1850	1880	1630	1520	1600
20	1850	1810	1840	1910	1870	1900	1930	1880	1910	1540	1510	1520
21	1880	1800	1840	1900	1830	1870	1930	1890	1910	1560	1530	1540
22	1900	1870	1890	1910	1820	1880	1940	1910	1930	1570	1550	1550
23	2200	1810	1920	1910	1870	1890	1920	1900	1910	1580	1560	1570
24	1830	1790	1810	1890	1840	1870	1940	1910	1920	1580	1560	1570
25	1870	1800	1840	1900	1850	1870	1950	1920	1930	1590	1560	1580
26	1890	1840	1870	1870	1810	1840	1920	1850	1900	1590	1550	1570
27	1900	1840	1880	1920	1870	1900	1910	1860	1890	1600	1570	1590
28	1890	1850	1870	1900	1860	1880	1920	1870	1900	1600	1570	1580
29	1890	1850	1870	1880	1850	1870	1920	1880	1900	1600	1580	1590
30	1890	1870	1880	1900	1860	1880	1900	1210	1680	1600	1580	1590
31	1880	1850	1870	---	---	---	1820	1710	1780	1630	1590	1610
MONTH	2200	1100	1770	1950	1620	1870	1970	1210	1900	1850	822	1490

11113900 SATICOY DIVERSION NEAR SATICOY, CA--Continued

## SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

FEBRUARY				MARCH			APRIL			MAY		
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	1650	1630	1640	1850	1790	1820	1750	1680	1720	1870	1770	1820
2	1660	1620	1650	1870	1820	1850	1740	1690	1720	1860	1760	1820
3	1680	1650	1670	1880	1840	1860	1750	1680	1720	1850	1760	1810
4	1680	1630	1660	1860	1830	1850	1750	1660	1720	1860	1790	1830
5	1680	1630	1660	1870	1830	1850	1790	1740	1760	1860	1790	1830
6	1690	1650	1670	1870	1840	1860	1800	1730	1780	1860	1820	1850
7	1690	1640	1670	1860	1820	1840	1790	1740	1770	1880	1840	1860
8	1720	1670	1690	1850	1810	1840	1800	1740	1780	1860	1090	1590
9	1730	1680	1720	1860	1810	1840	1800	1730	1770	1460	564	849
10	1740	1660	1720	1870	1820	1850	1780	1710	1750	837	647	739
11	1760	1690	1730	1870	1820	1850	1750	1660	1720	1080	850	968
12	1780	1710	1750	1870	1810	1850	1760	1690	1730	1190	1090	1120
13	1780	1720	1760	1860	1800	1830	1760	1710	1740	1240	1200	1220
14	1780	1710	1750	1840	1780	1810	1780	1730	1760	1330	1240	1280
15	1790	1750	1770	1840	1770	1810	1780	1710	1760	1340	1240	1270
16	1810	1750	1790	2020	1270	1640	1790	1750	1780	1270	1160	1200
17	1820	1750	1790	1610	1520	1580	1790	1740	1770	1250	1130	1180
18	1840	1780	1810	1680	1620	1640	1780	1720	1750	1310	1250	1270
19	1840	1800	1830	1740	1670	1690	1810	1710	1760	1390	1310	1360
20	1840	1800	1820	1760	1700	1740	1850	1760	1810	1460	1410	1430
21	1830	1790	1820	1790	1750	1770	1850	1760	1810	1490	1440	1460
22	1860	1780	1830	1810	1750	1790	1860	1780	1830	1530	1490	1500
23	1870	1820	1840	1810	1770	1800	1850	1680	1780	1550	1510	1520
24	1820	1750	1790	1800	1760	1790	1800	1660	1740	1560	1520	1540
25	1780	1750	1760	1790	940	1320	1790	1640	1730	1570	1530	1550
26	1800	1770	1780	1600	1360	1540	1800	1600	1720	1600	1550	1570
27	1800	1740	1780	1680	1600	1630	1800	1630	1740	1620	1570	1590
28	1800	1740	1770	1740	1680	1700	1840	1740	1780	1640	1590	1610
29	---	---	---	1750	1700	1730	1850	1740	1800	1640	1600	1630
30	---	---	---	1740	1700	1720	1860	1780	1820	1670	1610	1640
31	---	---	---	1740	1700	1720	---	---	---	1710	1650	1680
MONTH	1870	1620	1750	2020	940	1760	1860	1600	1760	1880	564	1470
JUNE				JULY			AUGUST			SEPTEMBER		
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	1720	1640	1690	1860	1820	1840	1920	1910	1920	1910	1890	1900
2	1730	1660	1700	1860	1820	1840	1930	1920	1930	1930	1910	1920
3	1740	1670	1710	1850	1810	1830	1930	1900	1920	1940	1920	1920
4	1770	1720	1750	1830	1790	1810	1930	1900	1910	1940	1920	1930
5	1770	1720	1750	1820	1790	1810	1920	1900	1910	1930	1920	1930
6	1770	1700	1750	1860	1800	1820	1920	1900	1910	1930	1890	1910
7	1780	1740	1760	1880	1840	1860	1920	1900	1910	1900	1880	1880
8	1820	1780	1810	1880	1850	1870	1910	1880	1900	1890	1870	1880
9	1830	1790	1810	1880	1840	1860	1890	1880	1890	1910	1890	1890
10	1830	1800	1820	1880	1830	1860	1900	1870	1890	1930	1910	1920
11	1840	1810	1830	1870	1840	1850	1900	1870	1880	1940	1930	1930
12	1850	1810	1830	1870	1840	1850	1910	1870	1890	1950	1930	1940
13	1850	1810	1830	1880	1860	1870	1910	1890	1900	1950	1930	1930
14	1830	1780	1810	1880	1850	1870	1910	1890	1900	1950	1940	1940
15	1840	1790	1820	1900	1870	1880	1910	1900	1910	1960	1950	1950
16	1850	1800	1830	1910	1860	1880	1920	1900	1900	1970	1940	1950
17	1860	1810	1840	1920	1890	1900	1900	1770	1840	1960	1940	1950
18	1870	1830	1860	1900	1870	1880	1760	1470	1540	1960	1930	1940
19	1870	1820	1860	1880	1850	1870	1750	1570	1660	1960	1930	1940
20	1880	1810	1840	1880	1860	1870	1840	1760	1800	1940	1930	1930
21	1840	1790	1820	1880	1850	1860	1870	1840	1860	1930	1910	1930
22	1840	1810	1830	1860	1840	1850	1870	1860	1860	1930	1920	1930
23	1850	1760	1830	1860	1830	1850	1870	1860	1860	1960	1940	1950
24	1860	1740	1820	1870	1850	1860	1880	1860	1870	1970	1940	1960
25	---	---	---	1880	1860	1870	1890	1880	1880	1980	1960	1970
26	1860	1810	1840	1870	1850	1860	1890	1880	1880	1980	1970	1970
27	1850	1810	1830	1870	1850	1860	1890	1870	1880	1990	1970	1980
28	1840	1800	1820	1880	1850	1870	1890	1880	1880	1990	1970	1980
29	1840	1810	1820	1890	1860	1880	1890	1880	1880	2010	1980	2000
30	1850	1810	1830	1890	1860	1880	1890	1880	1880	2030	2010	2020
31	---	---	---	1910	1880	1890	1890	1870	1880	---	---	---
MONTH	1880	1640	1800	1920	1790	1860	1930	1470	1870	2030	1870	1940
YEAR	2200	564	1770									



## 11114000 SANTA CLARA RIVER AT MONTALVO, CA

LOCATION.--Lat 34°14'31", long 119°11'21", in San Miguel Grant, Ventura County, on downstream end of center pier southbound bridge on U.S. Highway 101, 0.9 mi (1.4 km) southeast of Montalvo, and 4.5 mi (7.2 km) upstream from mouth.

DRAINAGE AREA.--1,612 mi<sup>2</sup> (4,175 km<sup>2</sup>).

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1927 to September 1932, October 1949 to current year. Monthly discharge only for 1950-67, published in WRD 1968 report. October 1949 to September 1969, published as "at Saticoy."

GAGE.--Water-stage recorder. Datum of gage is 51.88 ft (15.813 m) above mean sea level (levels by Ventura County Flood Control District). Oct. 1, 1927, to Sept. 30, 1932, and Oct. 1, 1949, to Sept. 30, 1967, at same site at different datums. Oct. 1, 1967, to Feb. 2, 1970, at site 3.9 mi (6.3 km) upstream at different datum.

REMARKS.--Records good. Flow partly regulated by Lake Piru (station 11109500) 33 mi (53 km) upstream since May 1955; by Pyramid Dam, capacity, 173,500 acre-ft (214 hm<sup>3</sup>) 42 mi (68 km) upstream since December 1971; and by Castaic Reservoir, capacity, 324,000 acre-ft (399 hm<sup>3</sup>) 43 mi (69 km) upstream since January 1972. Natural flow affected by ground-water withdrawals, diversions, municipal use, and ground-water replenishment. Imported water from the California Water Project released to the basin at Castaic Dam and Pyramid Dam. Diversion to spreading grounds and for irrigation in Pleasant Valley, at site 6.0 mi (9.7 km) upstream (station 11113900). AVERAGE DISCHARGE represents flow to the ocean regardless of upstream development.

COOPERATION.--Four discharge measurements were furnished by Ventura County Flood Control District.

AVERAGE DISCHARGE.--33 years, 109 ft<sup>3</sup>/s (3.087 m/s), 78,970 acre-ft/yr (97.4 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 165,000 ft<sup>3</sup>/s (4,670 m<sup>3</sup>/s) Jan. 25, 1969, gage height, 17.41 ft (5.307 m), present datum; no flow for long periods in most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 2, 1938, 120,000 ft<sup>3</sup>/s (3,400 m<sup>3</sup>/s), estimated by Ventura County Flood Control District.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,850 ft<sup>3</sup>/s (109 m<sup>3</sup>/s) Jan. 3, gage height, 5.60 ft (1.707 m); no flow many months.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.07			0	.53	.22		0				
2	.07			237	.53	.27						
3	.06			1390	.42	.27		0				
4	.01			99	.27	.27		0				
5	0			21	.22	.22		0				
6	0			366	.14	.08		0				
7	0			464	.14	.05		0				
8	0			101	.14	.02		0				
9	0			3.9	.11	.01		420				
10	0			.81	.09	.02		248				
11	0			.66	.06	.08		2.0				
12	0			.53	.08	.14		.33				
13	0			.53	.06	.04		.22				
14	0			.42	.04	.01		.14				
15	0			.33	.03	.03		.11				
16	0			.27	.04	.27		.08				
17	0			.22	.22	.18		.05				
18	0			.20	.66	.14		.03				
19	0			.20	.42	.08		.02				
20	0			.20	.22	.05		0				
21	0			.20	.27	.02		0				
22	0			.20	.22	.01		0				
23	0			.20	.27	.01		0				
24	0			.20	.33	.01		0				
25	0			.20	.42	.14		0				
26	0			.20	.33	.05		0				
27	0			.50	.33	.04		0				
28	0			.81	.27	.02		0				
29	0			.66	---	.02		0				
30	0			.53	---	.01		0				
31	0	---		.53	---	0	---	0	---			---
TOTAL	.21	0	0	2690.50	6.86	2.78	0	670.98	0	0	0	0
MEAN	.007	0	0	86.8	.25	.090	0	21.6	0	0	0	0
MAX	.07	0	0	1390	.66	.27	0	420	0	0	0	0
MIN	0	0	0	0	.03	0	0	0	0	0	0	0
AC-FT	.4	0	0	5340	14	5.5	0	1330	0	0	0	0
CAL YR 1976	TOTAL	6413.13	MEAN	17.5	MAX	2800	MIN	0	AC-FT	12720		
WTR YR 1977	TOTAL	3371.33	MEAN	9.24	MAX	1390	MIN	0	AC-FT	6690		

## SANTA CLARA RIVER BASIN

11114000 SANTA CLARA RIVER AT MONTALVO, CA--Continued

## WATER-QUALITY RECORDS

## PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: October 1967 to September 1969, October 1970 to current year.

SEDIMENT RECORDS: October 1967 to current year.

Prior to October 1969, published as "at Saticoy" (station 11113920).

REMARKS.--Sediment table omitted for period of no flow during July to September.

## EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 69,200 mg/l Feb. 25, 1969; minimum daily mean, no flow for many days each year.

SEDIMENT DISCHARGE: Maximum daily, 20,400,000 tons (18,500,000 tonnes) Feb. 25, 1969; minimum daily, 0 tons on many days each year.

## EXTREMES FOR CURRENT YEAR.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 9,000 mg/l Jan. 3; minimum daily mean, no flow for many days.

SEDIMENT DISCHARGE: Maximum daily, 47,500 tons (43,100 tonnes) Jan. 3; minimum daily, 0 tons on many days.

## SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	OCTOBER			NOVEMBER			DECEMBER		
	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	.07	10							
2	.07	10							
3	.06	10							
4	.01	3							
5	0	0							
6	0	0							
7	0	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	0							
23	0	0							
24	0	0							
25	0	0							
26	0	0							
27	0	0							
28	0	0							
29	0	0							
30	0	0							
31	0	0							
TOTAL	.21	---	0	0	0	0	0	0	0

11114000 SANTA CLARA RIVER AT MONTALVO, CA--Continued

## SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	JANUARY			FEBRUARY			MARCH		
	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	0	0	0	.53	16	.02	.22	15	.01
2	237	638	3860	.53	16	.02	.27	20	.01
3	1390	9000	47500	.42	15	.02	.27	20	.01
4	99	356	135	.27	14	.01	.27	20	.01
5	21	477	81	.22	13	.01	.22	15	.01
6	366	2460	3830	.14	12	0	.08	10	0
7	464	2400	3640	.14	12	0	.05	7	0
8	101	283	115	.14	12	0	.02	5	0
9	3.9	55	.82	.11	11	0	.01	5	0
10	.81	18	.04	.09	11	0	.02	5	0
11	.66	17	.03	.06	10	0	.08	10	0
12	.53	16	.02	.08	10	0	.14	10	0
13	.53	16	.02	.06	10	0	.04	5	0
14	.42	15	.02	.04	7	0	.01	5	0
15	.33	14	.01	.03	7	0	.03	5	0
16	.27	14	.01	.04	7	0	.27	20	.01
17	.22	13	.01	.22	13	.01	.18	32	.02
18	.20	12	.01	.66	17	.03	.14	30	.01
19	.20	12	.01	.42	15	.02	.08	10	0
20	.20	12	.01	.22	13	.01	.05	7	0
21	.20	12	.01	.27	15	.01	.02	5	0
22	.20	12	.01	.22	13	.01	.01	3	0
23	.20	12	.01	.27	15	.01	.01	3	0
24	.20	12	.01	.33	12	.01	.01	3	0
25	.20	12	.01	.42	17	.02	.14	10	0
26	.20	12	.01	.33	48	.04	.05	22	0
27	.50	17	.02	.33	48	.04	.04	7	0
28	.81	18	.04	.27	20	.01	.02	5	0
29	.66	17	.03	---	---	---	.02	3	0
30	.53	16	.02	---	---	---	.01	3	0
31	.53	16	.02	---	---	---	0	3	0
TOTAL	2690.50	---	59162.20	6.86	---	.30	2.78	---	.09
DAY	APRIL			MAY			JUNE		
	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1				0	0	0			
2				0	0	0			
3				0	0	0			
4				0	0	0			
5				0	0	0			
6				0	0	0			
7				0	0	0			
8				0	0	0			
9				420	1250	2350			
10				248	412	366			
11				2.0	50	.54			
12				.33	20	.02			
13				.22	15	.01			
14				.14	10	0			
15				.11	10	0			
16				.08	10	0			
17				.05	7	0			
18				.03	5	0			
19				.02	3	0			
20				0	0	0			
21				0	0	0			
22				0	0	0			
23				0	0	0			
24				0	0	0			
25				0	0	0			
26				0	0	0			
27				0	0	0			
28				0	0	0			
29				0	0	0			
30				0	0	0			
31				0	---	---			
TOTAL	0	0	0	670.98	---	2716.57	0	0	0

YEAR 3371.33

61879.16

## SANTA CLARA RIVER BASIN

11114000 SANTA CLARA RIVER AT MONTALVO, CA--Continued

## SUMMARY OF WATER AND SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

MONTH	WATER DISCHARGE CFS-DAYS	SUSPENDED SEDIMENT DISCHARGE TONS	BEDLOAD DISCHARGE TONS	TOTAL SEDIMENT DISCHARGE TONS
OCTOBER 1976	0.21	0.0	0	0
NOVEMBER ...	0.0	0.0	0	0
DECEMBER ...	0.0	0.0	0	0
JANUARY 1977	2690.50	59162.20	8330	67500
FEBRUARY ...	6.86	0.30	0	0
MARCH .....	2.78	0.09	0	0
APRIL .....	0.0	0.0	0	0
MAY .....	670.98	2716.57	424	3140
JUNE .....	0.0	0.0	0	0
JULY .....	0.0	0.0	0	0
AUGUST .....	0.0	0.0	0	0
SEPTEMBER ..	0.0	0.0	0	0
TOTAL .....	3371.33	61879.16	8754	70640

## PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	TEMPER- ATURE (DEG C)	INSTAN- TANEOUS DIS- CHARGE (CFS)	SUS- PENDED SEDI- MENT (MG/L)	SUS- PENDED SEDI- MENT DIS- CHARGE (T/DAY)	SUS. SED. FALL DIAM. % FINER THAN .002 MM	SUS. SED. FALL DIAM. % FINER THAN .004 MM	SUS. SED. FALL DIAM. % FINER THAN .008 MM	SUS. SED. FALL DIAM. % FINER THAN .016 MM	SUS. SED. FALL DIAM. % FINER THAN .031 MM
JAN										
03...	0800	10.0	1950	12400	65300	47	59	73	90	97
06...	0845	8.0	428	1860	2150	53	61	75	89	96
07...	1100	8.5	873	3470	8180	49	65	77	95	98
FEB										
25...	1400	14.0	.42	893	1.0	12	16	21	30	42
MAY										
09...	1200	13.0	750	4340	8790	42	59	78	89	94
10...	1000	15.0	.66	464	.83	52	72	88	98	100
10...	1500	21.0	70	367	69	30	42	49	52	53

DATE	SUS. SED. FALL DIAM. % FINER THAN .062 MM	SUS. SED. SIEVE DIAM. % FINER THAN .062 MM	SUS. SED. FALL DIAM. % FINER THAN .125 MM	SUS. SED. SIEVE DIAM. % FINER THAN .125 MM	SUS. SED. FALL DIAM. % FINER THAN .250 MM	SUS. SED. SIEVE DIAM. % FINER THAN .250 MM	SUS. SED. FALL DIAM. % FINER THAN .500 MM	SUS. SED. SIEVE DIAM. % FINER THAN .500 MM	SUS. SED. FALL DIAM. % FINER THAN 1.00 MM	SUS. SED. SIEVE DIAM. % FINER THAN 2.00 MM
JAN										
03...	99	--	99	--	100	--	--	--	--	--
06...	--	99	--	100	--	--	--	--	--	--
07...	--	99	--	99	--	100	--	--	--	--
FEB										
25...	--	55	--	63	--	75	--	90	97	100
MAY										
09...	95	--	96	--	97	--	100	--	--	--
10...	--	--	--	--	--	--	--	--	--	--
10...	--	54	--	54	--	58	--	95	100	--

11114000 SANTA CLARA RIVER AT MONTALVO, CA--Continued

## PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	NUMBER OF SAM- PLING POINTS	INSTAN- TANEOUS DIS- CHARGE (CFS)	BED MAT. SIEVE DIAM. % FINER THAN .062 MM	BED MAT. SIEVE DIAM. % FINER THAN .125 MM	BED MAT. SIEVE DIAM. % FINER THAN .250 MM	BED MAT. SIEVE DIAM. % FINER THAN .500 MM
SEP 16...	1145	7	.00	7	10	16	43

DATE	BED MAT. SIEVE DIAM. % FINER THAN 1.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 2.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 4.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 8.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 16.0 MM	BED MAT. SIEVE DIAM. % FINER THAN 32.0 MM
SEP 16...	61	70	76	83	92	100

PARTICLE-SIZE DISTRIBUTION OF BED SEDIMENT IN TRANSIT WITHIN 0.25 FT OF BED SURFACE,  
WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	TEMPER- ATURE (DEG C)	NUMBER OF SAM- PLING POINTS	INSTAN- TANEOUS DIS- CHARGE (CFS)	STREAM WIDTH (FT)	SEDI- MENT BEDLOAD DIS- CHARGE (T/DAY)	SED. BEDLOAD SIEVE DIAM. % FINER THAN .062 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN .125 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN .250 MM
JAN 06...	1445	9.0	10	714	145	645	0	0	2
MAY 09...	1220	13.0	25	740	250	1290	0	0	3
10...	1515	21.0	11	70	110	146	0	0	1

DATE	SED. BEDLOAD SIEVE DIAM. % FINER THAN .500 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 1.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 2.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 4.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 8.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 16.0 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 32.0 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 64.0 MM
JAN 06...	39	74	84	89	92	94	96	100
MAY 09...	41	78	90	96	99	100	--	--
10...	38	92	99	100	--	--	--	--

## VENTURA RIVER BASIN

## 11115000 MATILIJA RESERVOIR AT MATILIJA HOT SPRINGS, CA

LOCATION.--Lat 34°29'08", long 119°18'25", in NE¼NW¼SE¼ sec.29, T.5 N., R.23 W., Ventura County, on left end of dam on Ventura River, 0.2 mi (0.3 km) east of Matilija Hot Springs, and 1.8 mi (2.9 km) southwest of Wheeler Springs.

DRAINAGE AREA.--54.4 mi<sup>2</sup> (140.9 km<sup>2</sup>).

PERIOD OF RECORD.--March 1948 to September 1965, October 1970 to current year. Prior to October 1953, published as "at Matilija."

GAGE.--Water-stage recorder. Datum of gage is at mean sea level (Ventura County Department of Public Works bench mark). Prior to Nov. 12, 1970, at site near right end of dam at same datum.

REMARKS.--Reservoir is formed by concrete-arch dam. Dam was completed in 1948. Storage began Mar. 14, 1948. Capacity table is dated October 1970 (furnished by Ventura County Flood Control District). Lowest sluice gate silted, elevation, 1,000 ft (304.8 m). Usable capacity, 2,380 acre-ft (2.93 hm<sup>3</sup>) between elevations 1,045 ft (318.5 m), lowest usable outlet and 1,095 ft (333.8 m), crest of spillway. Dead storage below lowest usable outlet, 93 acre-ft (115,000 m<sup>3</sup>). Capacity below spillway, 2,473 acre-ft (3.05 hm<sup>3</sup>). Water is released from reservoir to natural stream for recharge of ground-water basin in Ventura River Valley and since May 1959 is at times diverted at Robles diversion dam downstream to Lake Casitas on Coyote Creek.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 7,399 acre-ft (9.12 hm<sup>3</sup>) Apr. 3, 1958, elevation, 1,128.10 ft (343.845 m); minimum, 5.90 acre-ft (7,270 m<sup>3</sup>) Oct. 31, 1970, elevation, 1,038.31 ft (316.477 m).

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum contents from October 1965 to September 1970, 3,128 acre-ft (3.86 hm<sup>3</sup>) Jan. 25, 1969, elevation, 1,103.6 ft (336.377 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 1,446 acre-ft (1.78 hm<sup>3</sup>) May 20, elevation, 1,079.43 ft (329.010 m); minimum, unknown, probably occurred Oct. 5 and was less than 532 acre-ft (656,000 m<sup>3</sup>).

## MONTHEND ELEVATION AND CONTENTS, AT 2400, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30.....	1062.15	611	--
Oct. 31.....	1061.09	572	-39
Nov. 30.....	1061.10	573	+1
Dec. 31.....	1061.28	579	+6
CAL YR 1976.....	--	--	+41
Jan. 31.....	1060.68	558	-21
Feb. 28.....	1060.57	554	-4
Mar. 31.....	1061.40	583	+29
Apr. 30.....	1061.25	578	-5
May 31.....	1079.12	1427	+849
June 30.....	1078.57	1395	-32
July 31.....	1078.42	1387	-8
Aug. 31.....	1078.45	1389	+2
Sept. 30.....	1078.60	1397	+8
WTR YR 1977.....	--	--	+786

LOCATION.--Lat 34°28'58", long 119°18'03", in SW¼NW¼SW¼ sec.28, T.5 N., R.23 W., Ventura County, on right bank 0.2 mi (0.3 km) east of Matilija Hot Springs, 0.2 mi (0.3 km) upstream from North Fork, and 0.4 mi (0.6 km) downstream from Matilija Dam.

WATER-DISCHARGE RECORDS

REMARKS.--Records good. Flow regulated by Matilija Reservoir March 1948 to March 1964, capacity, 7,020 acre-ft (8.66 hm<sup>3</sup>) and partly regulated since March 1964, capacity, 2,470 acre-ft (3.05 hm<sup>3</sup>). Water diverted at dam by Matilija conduit to Ventura River basin and Ojai Valley for irrigation from May 1951 to January 1969.

EXTREMES FOR CURRENT YEAR:--Maximum discharge, 80 ft<sup>3</sup>/s (2.27 m<sup>3</sup>/s) Jan. 9, gage height, 2.76 ft (0.841 m);  
minimum daily, 0.44 ft<sup>3</sup>/s (0.012 m<sup>3</sup>/s) Aug. 2.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.7	3.6	4.1	4.3	7.8	4.3	4.8	3.0	8.3	2.9	.70	.91
2	14	3.9	4.5	4.9	8.5	4.3	4.8	3.0	8.2	2.4	.44	.52
3	17	4.0	3.6	4.4	8.0	4.6	4.8	3.2	7.9	2.4	.52	.52
4	27	3.6	2.4	5.3	7.4	5.0	4.8	3.2	7.8	2.2	.66	.51
5	16	3.5	2.4	11	7.4	5.0	4.5	3.2	7.8	2.2	.66	.50
6	1.1	3.5	3.6	16	7.4	4.8	4.3	3.0	7.4	2.2	.66	.49
7	1.7	3.4	4.6	25	7.4	4.8	4.3	3.0	7.1	2.2	.67	.50
8	2.2	3.4	4.0	39	7.4	4.8	4.3	3.2	6.7	2.2	.67	.51
9	2.5	3.4	5.1	56	7.4	4.3	4.3	3.7	6.0	2.2	.80	.49
10	3.2	3.4	4.6	80	5.3	3.9	4.3	3.2	6.0	2.2	.96	.53
11	3.8	3.7	4.5	52	5.4	4.0	3.9	3.2	6.0	1.7	1.1	.53
12	5.7	3.6	3.8	19	6.0	4.0	3.6	3.3	6.3	1.2	1.0	.54
13	6.7	3.8	3.8	12	6.0	4.0	3.6	3.2	3.9	1.3	1.0	.60
14	6.7	3.8	3.5	13	6.0	4.0	3.8	3.3	3.0	1.7	1.0	.60
15	4.8	4.3	3.4	13	6.0	4.1	3.8	3.3	9.6	2.3	.99	.60
16	3.8	4.4	3.4	12	5.9	4.5	3.8	3.4	4.8	2.3	1.0	.60
17	3.8	4.3	3.4	11	5.6	4.2	3.8	6.4	5.0	2.2	1.1	.60
18	5.2	4.3	3.4	10	5.0	4.1	3.6	7.8	4.9	2.0	1.1	.66
19	5.9	4.0	3.4	9.8	4.5	4.1	3.6	10	4.5	1.9	1.0	.93
20	5.1	3.9	3.6	10	4.5	4.5	3.2	12	4.3	1.2	1.0	1.1
21	4.4	4.0	4.1	10	4.4	6.9	3.2	12	4.3	1.1	.98	1.1
22	4.3	5.2	4.3	10	5.2	8.2	3.2	12	4.3	1.1	1.0	1.1
23	4.4	5.7	4.3	9.8	7.2	5.4	3.2	11	4.3	1.0	1.0	1.1
24	4.4	4.0	4.3	8.6	5.5	6.7	2.8	11	4.3	1.1	1.0	1.1
25	5.3	3.2	4.3	8.6	5.7	6.8	2.6	11	4.1	1.1	1.0	1.1
26	5.1	4.0	4.3	9.0	5.5	6.7	2.6	11	4.1	1.0	1.0	.92
27	3.8	4.0	4.3	9.0	4.9	6.6	2.8	9.7	3.8	1.0	.99	.69
28	3.5	4.0	4.3	9.0	4.4	5.8	3.0	9.4	3.4	1.1	.99	.67
29	4.1	3.1	4.3	9.0	---	5.0	3.0	9.1	3.4	.97	.99	.67
30	4.3	2.7	4.5	9.0	---	4.8	3.0	8.9	3.3	.88	.99	.76
31	4.5	---	4.3	8.2	---	4.8	---	8.6	---	.88	.99	---
TOTAL	193.0	115.7	122.4	507.9	169.9	156.8	111.3	201.3	164.8	52.13	27.96	21.45
MEAN	6.23	3.86	3.95	16.4	6.07	5.06	3.71	6.49	5.49	1.68	.90	.72
MAX	27	5.7	5.1	80	8.5	8.2	4.8	12	9.6	2.9	1.1	1.1
MIN	1.1	2.7	2.4	4.3	4.4	3.9	2.6	3.0	3.0	.88	.44	.49
AC-FT	383	229	243	1010	337	311	221	399	327	103	55	43
CAL YR 1976	TOTAL	4037.19	MEAN	11.0	MAX	483	MIN	.89	AC-FT	8010		
WTR YR 1977	TOTAL	1844.64	MEAN	5.05	MAX	80	MIN	.44	AC-FT	3660		

## VENTURA RIVER BASIN

11115500 MATILIJA CREEK AT MATILIJA HOT SPRINGS, CA--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: Water years 1972 to current year (partial-record station).

COOPERATION.--Chemical-quality records were furnished by California Department of Water Resources.

## CHEMICAL ANALYSES, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPECIFIC CONDUCTANCE (MICRO- MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)
NOV 30...	0940	3.0	1040	7.9	8.9	2	10.3	200	116
FEB 04...	1105	7.4	1030	8.1	12.2	1	10.8	220	120
APR 20...	1400	3.0	1010	8.1	21.7	0	9.8	210	110
JUL 22...	1035	2.2	870	8.2	25.0	1	9.2	200	110

DATE	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	ALKA- LINITY AS CAC03 (MG/L)	CARBON DIOXIDE (CO2) (MG/L)
NOV 30...	30	60	24	1.3	3.0	260	0	220	5.2
FEB 04...	32	51	20	1.1	2.0	240	0	200	3.1
APR 20...	32	58	24	1.3	2.0	230	0	190	2.9
JUL 22...	28	50	22	1.1	2.0	220	0	180	2.2

DATE	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	DIS- SOLVED SOLIDS (TONS PER AC-FT)	DIS- SOLVED SOLIDS (TONS PER DAY)	DIS- SOLVED NITRATE (N) (MG/L)	DIS- SOLVED NITRATE (NO3) (MG/L)	DIS- SOLVED BORON (B) (UG/L)
NOV 30...	240	52	.7	667	.91	5.40	.29	1.3	120
FEB 04...	270	34	.8	663	.90	13.2	.90	4.0	860
APR 20...	260	41	.9	714	.97	5.78	.09	.40	1150
JUL 22...	250	32	.7	605	.82	3.59	.00	.00	590



## 11116000 NORTH FORK MATILIJA CREEK AT MATILIJA HOT SPRINGS, CA

LOCATION.--Lat 34°29'33", long 119°18'20", in NE¼NW¼NE¼ sec.29, T.5 N., R.23 W., Ventura County, on right bank at bridge on State Highway 33, 0.7 mi (1.1 km) north of Matilija Hot Springs, and 0.8 mi (1.3 km) upstream from mouth.

DRAINAGE AREA.--15.6 mi<sup>2</sup> (40.4 km<sup>2</sup>).

PERIOD OF RECORD.--October 1928 to September 1932, October 1933 to current year. Prior to October 1953, published as "at Matilija."

GAGE.--Water-stage recorder. Concrete control since September 1966. Datum of gage is 1,141.62 ft (347.966 m), above mean sea level (levels by Ventura County Flood Control District). Prior to Nov. 12, 1948, at site 0.3 mi (0.5 km) downstream at different datum.

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

COOPERATION.--Records were furnished by Ventura County Flood Control District; one discharge measurement was made and records were reviewed by Geological Survey.

AVERAGE DISCHARGE.--48 years, 9.89 ft<sup>3</sup>/s (0.280 m<sup>3</sup>/s), 7,170 acre-ft/yr (8.84 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,440 ft<sup>3</sup>/s (267 m<sup>3</sup>/s) Feb. 24, 1969, gage height, 11.0 ft (3.35 m), from floodmark, from rating curve extended above 1,700 ft<sup>3</sup>/s (48.1 m<sup>3</sup>/s) on basis of slope-area measurement at gage height 10.0 ft (3.05 m); minimum daily, 0.10 ft<sup>3</sup>/s (0.003 m<sup>3</sup>/s) for several days in some years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 54 ft<sup>3</sup>/s (1.53 m<sup>3</sup>/s) May 9, gage height, 2.42 ft (0.738 m), no peak above base of 400 ft<sup>3</sup>/s (11.3 m<sup>3</sup>/s); minimum daily, 0.28 ft<sup>3</sup>/s (0.008 m<sup>3</sup>/s) Aug. 8-16, Sept. 5-10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.8	1.5	1.4	1.6	2.2	1.6	1.6	1.2	1.5	.75	.32	.42
2	3.5	1.5	1.4	6.5	2.2	1.6	1.5	1.2	1.5	.75	.32	.37
3	3.0	1.5	1.4	10	2.0	1.6	1.5	1.1	1.4	.75	.32	.32
4	2.7	1.5	1.4	3.5	2.0	1.6	1.5	1.0	1.4	.75	.32	.32
5	2.5	1.5	1.4	3.5	2.0	1.6	1.5	1.1	1.4	.75	.32	.28
6	2.2	1.5	1.3	8.2	2.0	1.5	1.5	1.1	1.4	.75	.32	.28
7	2.0	1.5	1.3	12	2.0	1.5	1.5	1.3	1.4	.75	.32	.28
8	1.8	1.5	1.3	6.4	2.0	1.4	1.5	4.8	1.4	.68	.28	.28
9	1.8	1.5	1.3	4.8	2.0	1.4	1.5	27	1.5	.68	.28	.28
10	1.8	1.5	1.3	4.4	2.0	1.4	1.3	7.3	1.5	.61	.28	.28
11	1.8	1.6	1.3	3.8	1.8	1.4	1.3	4.8	1.5	.54	.28	.32
12	1.6	2.7	1.3	3.5	1.8	1.4	1.3	4.1	1.4	.54	.28	.32
13	1.6	1.8	1.3	3.0	1.8	1.4	1.3	3.8	1.4	.54	.28	.32
14	1.6	1.8	1.3	2.7	1.8	1.4	1.3	3.2	1.4	.54	.28	.32
15	1.6	1.6	1.3	2.7	1.8	1.4	1.2	3.2	1.3	.48	.28	.32
16	1.6	1.6	1.3	2.5	1.6	4.6	1.2	3.0	1.3	.42	.28	.32
17	1.6	1.5	1.3	2.5	1.6	3.0	1.2	2.7	1.2	.42	.48	.32
18	1.8	1.5	1.4	2.2	1.6	2.2	1.2	2.5	1.2	.42	.54	.32
19	1.8	1.4	1.4	2.2	1.6	2.0	1.1	2.2	1.2	.42	.48	.37
20	1.8	1.5	1.4	2.5	1.6	2.0	1.1	2.0	1.2	.42	.42	.37
21	1.8	1.4	1.4	2.5	1.6	1.8	1.1	1.8	1.2	.42	.42	.37
22	2.0	1.4	1.4	2.5	1.6	1.8	1.0	1.8	1.2	.37	.42	.37
23	2.0	1.4	1.4	2.5	1.8	1.8	1.0	2.0	1.1	.37	.42	.37
24	1.8	1.4	1.4	2.5	1.8	2.0	1.0	2.0	1.1	.37	.42	.37
25	1.8	1.4	1.4	2.5	1.6	2.5	1.0	2.0	1.0	.32	.42	.42
26	1.6	1.4	1.4	2.2	1.6	2.0	1.0	2.0	.90	.32	.42	.42
27	1.5	1.4	1.4	2.2	1.6	1.8	1.0	2.0	.82	.32	.42	.48
28	1.5	1.4	1.4	2.2	1.6	1.6	1.0	2.0	.82	.32	.42	.48
29	1.5	1.4	1.4	2.2	---	1.6	1.0	1.8	.75	.32	.37	.42
30	1.5	1.4	2.0	2.2	---	1.6	1.1	1.6	.75	.32	.42	.42
31	1.5	---	1.8	2.2	---	1.6	---	1.6	---	.32	.42	---
TOTAL	60.4	46.0	43.2	114.2	50.6	56.1	37.3	99.2	37.14	15.73	11.25	10.53
MEAN	1.95	1.53	1.39	3.68	1.81	1.81	1.24	3.20	1.24	.51	.36	.35
MAX	3.8	2.7	2.0	12	2.2	4.6	1.6	27	1.5	.75	.54	.48
MIN	1.5	1.4	1.3	1.6	1.6	1.4	1.0	1.0	.75	.32	.28	.28
AC-FT	120	91	86	227	100	111	74	197	74	31	22	21
CAL YR 1976	TOTAL 854.30		MEAN 2.33	MAX 94	MIN .42	AC-FT 1690						
WTR YR 1977	TOTAL 581.65		MEAN 1.59	MAX 27	MIN .28	AC-FT 1150						

## 11116550 VENTURA RIVER NEAR MEINERS OAKS, CA

LOCATION.--Lat 34°27'54", long 119°17'20", in SE&SW&SE& sec.33, T.5 N., R.23 W., Ventura County, on right bank 50 ft (15 m) downstream from Robles diversion dam, and 1.2 mi (1.9 km) northwest of Meiners Oaks.

DRAINAGE AREA.--76.4 mi<sup>2</sup> (197.9 km<sup>2</sup>).

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

GAGE.--Water-stage recorder. Datum of gage is 750.00 ft (228.600 m) above mean sea level (Bureau of Reclamation bench mark). Prior to Oct. 30, 1969, at site 500 ft (152 m) downstream at datum 5.40 ft (1.646 m) lower.

REMARKS.--Records fair. Flow regulated by Matilija Reservoir, capacity, 2,470 acre-ft (3.05 hm<sup>3</sup>). Flow up to 500 ft<sup>3</sup>/s (14.2 m<sup>3</sup>/s) diverted since May 1959 at Robles diversion dam to Lake Casitas on Coyote Creek. Flow reported herein is that released from Robles diversion dam.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 28,000 ft<sup>3</sup>/s (793 m<sup>3</sup>/s), estimated, Jan. 25, 1969, (gage height, unknown); no flow for several months in most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 145 ft<sup>3</sup>/s (4.11 m<sup>3</sup>/s), Oct. 1, gage height, 3.55 ft (1.082 m); no flow for several months.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	.36	.12	.56	4.7	1.8	1.2	0	6.5			
2	15	0	1.1	8.1	5.2	.77	1.1	0	6.2			
3	17	0	1.2	15	5.0	.95	1.0	0	5.4			
4	25	.09	.52	4.5	5.2	.95	.89	0	5.2			
5	17	0	.06	9.3	5.4	.83	.79	0	5.4			
6	1.7	0	0	25	5.2	.89	.72	0	5.4			
7	1.4	0	.02	33	5.2	.72	.66	.74	3.9			
8	1.3	0	.31	40	5.0	.66	.77	4.3	2.3			
9	1.4	0	1.9	44	5.0	.72	.61	29	2.0			
10	1.8	0	1.6	37	2.9	.43	.40	15	1.5			
11	2.5	0	1.8	27	2.1	.40	1.1	5.7	1.7			
12	3.3	.41	1.2	18	2.7	.45	.38	5.0	2.1			
13	3.7	.43	.95	14	3.0	1.3	.01	3.5	1.7			
14	3.5	.41	.61	11	2.4	.96	0	2.8	.07			
15	2.7	.52	0	9.7	1.9	.43	.15	2.3	3.5			
16	1.5	.66	0	9.6	2.4	3.5	0	2.0	.98			
17	1.4	.95	0	8.3	1.9	1.6	.01	3.9	.48			
18	1.7	.76	0	9.0	1.8	1.1	.12	5.7	.40			
19	2.0	.56	0	8.6	.89	.83	0	7.7	.72			
20	2.0	.40	0	8.3	1.0	.89	0	8.9	.83			
21	1.0	.56	.13	8.3	1.1	1.8	0	9.6	.76			
22	.68	1.1	.95	8.0	1.3	3.7	0	10	.07			
23	.89	3.5	1.0	8.0	2.3	3.0	0	9.3	0			
24	.80	1.8	1.1	7.0	2.7	2.8	0	8.9	0			
25	.70	.40	1.2	6.2	3.2	3.7	0	10	0			
26	.70	0	.95	6.8	2.8	2.8	0	9.6	0			
27	.62	.21	.46	6.2	1.7	2.8	0	8.3	0			
28	.01	.36	.13	6.5	1.9	2.0	0	7.3	0			
29	.05	.28	1.1	6.2	---	1.5	0	6.0	0			
30	.77	0	1.2	6.2	---	1.4	0	5.7	0			
31	.66	---	.77	5.2	---	1.3	---	6.5	---			---
TOTAL	130.78	13.76	20.38	414.56	85.89	46.98	9.91	187.74	57.11	0	0	0
MEAN	4.22	.46	.66	13.4	3.07	1.52	.33	6.06	1.90	0	0	0
MAX	25	3.5	1.9	44	5.4	3.7	1.2	29	6.5	0	0	0
MIN	.01	0	0	.56	.89	.40	0	0	0	0	0	0
AC-FT	259	27	40	822	170	93	20	372	113	0	0	0
CAL YR 1976	TOTAL	1290.16	MEAN 3.53	MAX 37	MIN 0	AC-FT 2560						
WTR YR 1977	TOTAL	967.11	MEAN 2.65	MAX 44	MIN 0	AC-FT 1920						

## 11117500 SAN ANTONIO CREEK AT CASITAS SPRINGS, CA

LOCATION.--Lat 34°22'49", long 119°18'13", in Santa Ana Grant, Ventura County, on left bank downstream side of bridge on State Highway 33, 0.2 mi (0.3 km) upstream from mouth, and 0.9 mi (1.4 km) north of Casitas Springs.

DRAINAGE AREA.--51.2 mi<sup>2</sup> (132.6 km<sup>2</sup>).

## WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Datum of gage is 306.72 ft (93.488 m) above mean sea level (levels by Ventura County Flood Control District). Prior to Jan. 30, 1962, at datum 0.83 ft (0.253 m) higher.

REMARKS.--Records good. No regulation above station; pumping from wells 100 ft (30 m) upstream for irrigation during summer months.

COOPERATION.--Records were furnished by Ventura County Flood Control District; three discharge measurements were made and records were reviewed by Geological Survey.

AVERAGE DISCHARGE.--28 years, 10.6 ft<sup>3</sup>/s (0.300 m<sup>3</sup>/s), 7,680 acre-ft/yr (9.47 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,200 ft<sup>3</sup>/s (459 m<sup>3</sup>/s) Jan. 25, 1969, gage height, 14.30 ft (4.359 m), from inside gage, from rating curve extended above 2,000 ft<sup>3</sup>/s (56.6 m<sup>3</sup>/s) on basis of slope-area measurement of maximum flow; no flow for several months in most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 200 ft<sup>3</sup>/s (5.66 m<sup>3</sup>/s) and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)
Jan. 2	2215	*660 18.7	7.73 2.356
Jan. 6	1000	216 6.12	6.76 2.060

Minimum daily discharge, no flow July 1 to Sept. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.3	.36	.23	.53	1.2	.64	.89	.12	.53			
2	.89	.36	.23	61	1.3	.76	.89	.09	.53			
3	.64	.36	.23	34	1.2	.76	.89	.06	.44			
4	.64	.36	.23	4.6	1.3	.89	.76	.06	.36			
5	.64	.23	.23	9.1	1.2	.89	.76	.06	.36			
6	.64	.23	.23	66	1.2	1.0	.76	.09	.23			
7	.64	.23	.17	24	1.0	.76	.76	.23	.36			
8	.64	.17	.23	6.5	1.0	1.0	.76	14	.53			
9	.64	.17	.23	3.9	1.0	1.0	.76	40	.44			
10	.64	.23	.29	3.0	1.0	.76	.64	2.8	.23			
11	.64	.64	.29	2.6	.89	.76	.64	1.0	.17			
12	.64	.44	.29	2.1	1.0	.64	.53	1.1	.17			
13	.64	.29	.29	1.7	.89	.64	.53	1.1	.17			
14	.64	.29	.23	1.5	.89	.53	.53	.89	.17			
15	.64	.29	.23	1.5	.76	.53	.53	.89	.09			
16	.53	.29	.17	1.3	.64	11	.53	.76	.06			
17	.53	.29	.23	1.3	.53	2.1	.44	.76	.06			
18	.44	.29	.23	1.3	.44	1.0	.44	.89	.06			
19	.44	.29	.23	1.3	.44	.64	.36	.89	.06			
20	.44	.29	.17	1.3	.44	.53	.29	.76	.06			
21	.36	.36	.17	1.3	.44	.53	.29	.76	.06			
22	.36	.29	.17	1.3	.44	.53	.29	.76	.06			
23	.29	.36	.17	1.3	.64	.44	.29	.76	.06			
24	.29	.29	.23	1.3	.53	.44	.29	.76	.04			
25	.29	.29	.23	1.3	.53	4.7	.23	.76	.03			
26	.29	.29	.23	1.3	.53	1.0	.23	.76	.04			
27	.29	.29	.23	1.3	.53	.89	.23	.64	.03			
28	.29	.29	.23	1.5	.64	.89	.17	.76	.03			
29	.29	.29	.23	1.5	---	.89	.17	.76	.02			
30	.29	.23	1.1	1.3	---	.89	.17	.64	.01			
31	.29	---	1.2	1.3	---	.89	---	.53	---			---
TOTAL	16.22	9.08	8.85	243.23	22.60	39.16	15.05	74.44	5.46	0	0	0
MEAN	.52	.30	.29	7.85	.81	1.26	.50	2.40	.18	0	0	0
MAX	1.3	.64	1.2	66	1.3	11	.89	.40	.53	0	0	0
MIN	.29	.17	.17	.53	.44	.17	.06	.01	.01	0	0	0
AC-FT	32	18	18	482	45	78	30	148	11	0	0	0
CAL YR 1976	TOTAL 564.97	MEAN 1.54	MAX 135	MIN 0	AC-FT 1120							
WTR YR 1977	TOTAL 434.09	MEAN 1.19	MAX 66	MIN 0	AC-FT 861							

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--  
SEDIMENT RECORDS: October 1976 to September 1977.

EXTREMES FOR CURRENT YEAR.--  
SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,280 mg/l Jan. 2; minimum daily mean, no flow for many days.  
SEDIMENT DISCHARGE: Maximum daily, 1,740 tons (1,580 tonnes) Jan. 2; minimum daily, 0 tons on many days.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
ONCE-DAILY

[illegible]

11117500 SAN ANTONIO CREEK AT CASITAS SPRINGS, CA--Continued

## SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	OCTOBER			NOVEMBER			DECEMBER		
	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	1.3	12	.04	.36	7	.01	.23	5	0
2	.89	11	.03	.36	7	.01	.23	5	0
3	.64	9	.02	.36	7	.01	.23	5	0
4	.64	9	.02	.36	3	0	.23	5	0
5	.64	9	.02	.23	3	0	.23	4	0
6	.64	9	.02	.23	2	0	.23	4	0
7	.64	9	.02	.23	2	0	.17	3	0
8	.64	9	.02	.17	1	0	.23	3	0
9	.64	8	.01	.17	1	0	.23	2	0
10	.64	7	.01	.23	2	0	.29	2	0
11	.64	7	.01	.64	2	.01	.29	2	0
12	.64	7	.01	.44	2	0	.29	1	0
13	.64	7	.01	.29	2	0	.29	1	0
14	.64	7	.01	.29	2	0	.23	1	0
15	.64	3	.01	.29	2	0	.23	1	0
16	.53	4	.01	.29	2	0	.17	1	0
17	.53	5	.01	.29	2	0	.23	2	0
18	.44	5	.01	.29	2	0	.23	2	0
19	.44	6	.01	.29	2	0	.23	2	0
20	.44	7	.01	.29	2	0	.17	2	0
21	.36	7	.01	.36	2	0	.17	2	0
22	.36	7	.01	.29	3	0	.17	3	0
23	.29	8	.01	.36	3	0	.17	3	0
24	.29	8	.01	.29	3	0	.23	3	0
25	.29	8	.01	.29	4	0	.23	3	0
26	.29	8	.01	.29	4	0	.23	4	0
27	.29	8	.01	.29	5	0	.23	4	0
28	.29	7	.01	.29	5	0	.23	5	0
29	.29	7	.01	.29	6	0	.23	5	0
30	.29	7	.01	.23	5	0	1.1	6	.03
31	.29	7	.01	.23	---	---	1.2	7	.03
TOTAL	16.22	---	.42	9.08	---	.04	8.85	---	.06

DAY	JANUARY			FEBRUARY			MARCH		
	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	.53	7	.01	1.2	11	.04	.64	4	.01
2	61	1280	1740	1.3	11	.04	.76	5	.01
3	34	1100	193	1.2	11	.04	.76	6	.01
4	4.6	27	.38	1.3	11	.04	.89	7	.02
5	9.1	87	16	1.2	11	.04	.89	8	.02
6	66	751	271	1.2	11	.04	1.0	8	.02
7	24	151	14	1.0	4	.01	1.0	8	.02
8	6.5	8	.14	1.0	4	.01	1.0	8	.02
9	3.9	8	.08	1.0	4	.01	1.0	8	.02
10	3.0	8	.06	1.0	4	.01	.76	8	.02
11	2.6	8	.06	.89	4	.01	.76	10	.02
12	2.1	8	.05	1.0	4	.01	.64	12	.02
13	1.7	3	.01	.89	4	.01	.64	14	.02
14	1.5	8	.03	.89	4	.01	.53	16	.02
15	1.5	8	.03	.76	4	.01	.53	18	.03
16	1.3	8	.03	.64	4	.01	11	118	13
17	1.3	8	.03	.53	4	.01	2.1	16	.09
18	1.3	8	.03	.44	4	0	1.0	16	.04
19	1.3	8	.03	.44	4	0	.64	16	.03
20	1.3	8	.03	.44	4	0	.53	16	.02
21	1.3	8	.03	.44	4	0	.53	16	.02
22	1.3	7	.02	.44	4	0	.53	16	.02
23	1.3	7	.02	.64	11	.02	.44	16	.02
24	1.3	7	.02	.53	8	.01	.44	16	.02
25	1.3	8	.03	.53	7	.01	4.7	21	.59
26	1.3	9	.03	.53	6	.01	1.0	9	.02
27	1.3	9	.03	.53	4	.01	.89	7	.02
28	1.5	10	.04	.64	3	.01	.89	7	.02
29	1.5	10	.04	---	---	---	.89	7	.02
30	1.3	10	.04	---	---	---	.89	7	.02
31	1.3	11	.04	---	---	---	.89	7	.02
TOTAL	243.23	---	2235.34	22.60	---	.42	39.16	---	14.25

11117500 SAN ANTONIO CREEK AT CASITAS SPRINGS, CA--Continued

## SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	APRIL			MAY			JUNE		
	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	.89	7	.02	.12	3	0	.53	8	.01
2	.89	6	.01	.09	3	0	.53	7	.01
3	.89	6	.01	.06	3	0	.44	7	.01
4	.76	6	.01	.06	3	0	.36	6	.01
5	.76	6	.01	.06	3	0	.36	6	.01
6	.76	5	.01	.09	3	0	.23	5	0
7	.76	5	.01	.23	3	0	.36	7	.01
8	.76	4	.01	14	92	20	.53	9	.01
9	.76	4	.01	40	595	151	.44	11	.01
10	.64	4	.01	2.8	13	.14	.23	13	.01
11	.64	4	.01	1.0	10	.03	.17	15	.01
12	.53	4	.01	1.1	7	.03	.17	17	.01
13	.53	4	.01	1.1	8	.03	.17	16	.01
14	.53	4	.01	.89	8	.02	.17	16	.01
15	.53	5	.01	.89	8	.02	.09	15	0
16	.53	6	.01	.76	7	.01	.06	15	0
17	.44	7	.01	.76	7	.01	.06	14	0
18	.44	8	.01	.89	7	.02	.06	14	0
19	.36	9	.01	.89	7	.02	.06	13	0
20	.29	8	.01	.76	6	.01	.06	13	0
21	.29	7	.01	.76	6	.01	.06	12	0
22	.29	6	0	.76	6	.01	.06	12	0
23	.29	5	0	.76	7	.01	.06	12	0
24	.29	4	0	.76	8	.02	.04	12	0
25	.23	8	0	.76	9	.02	.03	12	0
26	.23	12	.01	.76	10	.02	.04	12	0
27	.23	15	.01	.64	11	.02	.03	12	0
28	.17	19	.01	.76	10	.02	.03	12	0
29	.17	3	0	.76	10	.02	.02	12	0
30	.17	3	0	.64	9	.02	.01	12	0
31	---	---	---	.53	9	.01	---	---	---
TOTAL	15.05	---	.25	74.44	---	171.52	5.46	---	.13

DAY	JULY			AUGUST			SEPTEMBER		
	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									
23									
24									
25									
26									
27									
28									
29									
30									
31									
TOTAL	0	0	0	0	0	0	0	0	0
YEAR	434.09		2422.43						

11117500 SAN ANTONIO CREEK AT CASITAS SPRINGS, CA--Continued

## SUMMARY OF WATER AND SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

MONTH	WATER DISCHARGE CFS-DAYS	SUSPENDED SEDIMENT DISCHARGE TONS	BEDLOAD DISCHARGE TONS	TOTAL SEDIMENT DISCHARGE TONS
OCTOBER 1976	16.22	0.42	0	0
NOVEMBER ...	9.08	0.04	0	0
DECEMBER ...	8.85	0.06	0	0
JANUARY 1977	243.23	2235.34	88	2320
FEBRUARY ...	22.60	0.42	0	0
MARCH .....	39.16	14.25	0	14
APRIL .....	15.05	0.25	0	0
MAY .....	74.44	171.52	16	188
JUNE .....	5.46	0.13	0	0
JULY .....	0.0	0.0	0	0
AUGUST .....	0.0	0.0	0	0
SEPTEMBER ..	0.0	0.0	0	0
TOTAL .....	434.09	2422.43	104	2522

## PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	TEMPER- ATURE (DEG C)	INSTAN- TANEOUS DIS- CHARGE (CFS)	SUS- PENDE SEDI- MENT DIS- CHARGE (MG/L)	SUS- PENDE SEDI- MENT DIS- CHARGE (T/DAY)	SUS. SED. FALL DIAM. % FINER THAN .002 MM	SUS. SED. FALL DIAM. % FINER THAN .004 MM	SUS. SED. FALL DIAM. % FINER THAN .008 MM	SUS. SED. FALL DIAM. % FINER THAN .016 MM
JAN									
03...	0815	9.0	23	400	25	74	94	98	100
03...	1620	13.0	15	503	20	83	98	99	100
06...	0830	8.0	153	1110	459	52	69	85	94
06...	1100	7.5	164	1540	682	40	44	67	80
06...	1215	9.0	96	773	200	55	72	86	95
07...	0820	9.0	34	157	14	68	85	93	98
MAR									
16...	1030	11.5	88	231	55	38	49	63	76
MAY									
09...	0835	14.0	37	412	41	67	87	98	100
09...	1620	15.0	2.8	10	.08	--	--	--	--
JUN									
27...	1745	27.0	.01	66	.00	--	--	--	--

## VENTURA RIVER BASIN

11117500 SAN ANTONIO CREEK AT CASITAS SPRINGS, CA--Continued

## PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	SUS. SED. FALL DIAM. % FINER THAN .031 MM	SUS. SED. FALL DIAM. % FINER THAN .062 MM	SUS. SED. SIEVE DIAM. % FINER THAN .062 MM	SUS. SED. FALL DIAM. % FINER THAN .125 MM	SUS. SED. SIEVE DIAM. % FINER THAN .125 MM	SUS. SED. FALL DIAM. % FINER THAN .250 MM	SUS. SED. SIEVE DIAM. % FINER THAN .250 MM	SUS. SED. SIEVE DIAM. % FINER THAN .500 MM
JAN								
03...	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--
06...	97	--	99	--	100	--	--	--
06...	92	97	--	99	--	100	--	--
06...	98	--	100	--	--	--	--	--
07...	99	--	99	--	100	--	--	--
MAR								
16...	87	--	91	--	98	--	99	100
MAY								
09...	--	--	--	--	--	--	--	--
09...	--	--	99	--	100	--	--	--
JUN								
27...	--	--	97	--	100	--	--	--

## PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	NUMBER OF SAM- PLING POINTS	INSTAN- TANEOUS DIS- CHARGE (CFS)	BED MAT. SIEVE DIAM. % FINER THAN .062 MM	BED MAT. SIEVE DIAM. % FINER THAN .125 MM	BED MAT. SIEVE DIAM. % FINER THAN .250 MM	BED MAT. SIEVE DIAM. % FINER THAN .500 MM
SEP							
16...	0945	5	.00	12	19	28	44

DATE	BED MAT. SIEVE DIAM. % FINER THAN 1.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 2.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 4.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 8.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 16.0 MM	BED MAT. SIEVE DIAM. % FINER THAN 32.0 MM	BED MAT. SIEVE DIAM. % FINER THAN 64.0 MM
SEP							
16...	54	61	68	77	86	95	100



11117500 SAN ANTONIO CREEK AT CASITAS SPRINGS, CA--Continued

PARTICLE-SIZE DISTRIBUTION OF BED SEDIMENT IN TRANSIT WITHIN 0.25 FT OF BED SURFACE,  
WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	TEMPER- ATURE (DEG C)	NUMBER OF SAM- PLING POINTS	INSTAN- TANEOUS DIS- CHARGE (CFS)	STREAM WIDTH (FT)	SEDI- MENT BEDLOAD DIS- CHARGE (T/DAY)	SED. BEDLOAD SIEVE DIAM. % FINER THAN .062 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN .125 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN .250 MM
JAN									
06...	1120	7.5	15	152	50	4.4	0	0	0
07...	1300	10.0	1	21	6.0	.03	2	4	7
MAR									
16...	1105	11.5	17	60	15	15	0	0	1
25...	1100	12.0	11	6.1	5.5	.04	--	--	0

DATE	SED. BEDLOAD SIEVE DIAM. % FINER THAN .500 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 1.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 2.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 4.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 8.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 16.0 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 32.0 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 64.0 MM
JAN								
06...	7	30	46	57	67	76	80	100
07...	16	32	52	73	100	--	--	--
MAR								
16...	2	4	6	10	16	28	51	100
25...	20	55	75	91	100	--	--	--

LOCATION.--Lat 34°25'02", long 119°22'01", in Santa Ana Grant, Ventura County, on right bank 1,000 ft (305 m) downstream from Los Padres National Forest boundary, 0.6 mi (1.0 km) upstream from Poplin Creek, and 4.2 mi (6.8 km) northwest of Oak View.

GAGE.--Water-stage recorder. Datum of gage is 560.47 ft (170.831 m) above mean sea level (Bureau of Reclamation bench mark).

AVERAGE DISCHARGE.--19 years, 6.07 ft<sup>3</sup>/s (0.172 m<sup>3</sup>/s), 4,400 acre-ft/yr (5.43 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,000 ft<sup>3</sup>/s (227 m<sup>3</sup>/s) Jan. 25, 1969, gage height, 12.00 ft (3.658 m), from floodmarks, from rating curve extended above 2,100 ft<sup>3</sup>/s (59.5 m<sup>3</sup>/s) on basis of slope-area measurements at gage heights 9.10 ft (2.774 m) and 12.00 ft (3.658 m); no flow at times in some years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 160 ft<sup>3</sup>/s (4.53 m<sup>3</sup>/s) Jan. 2 (2400 hrs), gage height, 5.71 ft (1.740 m), no other peak above base of 150 ft<sup>3</sup>/s (4.25 m<sup>3</sup>/s); minimum daily discharge, 0.03 ft<sup>3</sup>/s (<0.001 m<sup>3</sup>/s) Sept. 7-9.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.6	.53	.44	.39	.71	.50	.59	.27	.88	.29	.11	.07
2	1.3	.51	.44	12	.71	.50	.59	.24	.82	.29	.11	.07
3	1.1	.48	.44	22	.71	.50	.56	.23	.79	.28	.09	.06
4	.96	.48	.39	1.3	.71	.50	.56	.23	.74	.28	.07	.05
5	.96	.47	.39	.97	.68	.50	.56	.26	.72	.26	.06	.05
6	.96	.47	.39	13	.63	.50	.48	.26	.71	.24	.07	.04
7	.87	.46	.39	9.4	.63	.50	.48	.34	.71	.23	.07	.03
8	.87	.44	.39	4.2	.63	.49	.49	2.1	.68	.22	.07	.03
9	.79	.43	.39	2.5	.63	.49	.48	49	.71	.21	.06	.03
10	.79	.44	.39	1.9	.63	.46	.47	9.2	.66	.20	.07	.04
11	.79	.50	.38	1.5	.61	.46	.47	3.4	.62	.20	.06	.04
12	.71	.61	.37	1.3	.59	.46	.47	2.7	.54	.20	.05	.04
13	.71	.43	.36	1.2	.57	.44	.46	2.4	.56	.20	.05	.07
14	.71	.44	.32	1.1	.57	.44	.47	1.9	.54	.22	.04	.09
15	.71	.43	.31	1.1	.57	.44	.45	1.8	.52	.19	.04	.09
16	.68	.41	.30	.99	.57	.81	.47	1.6	.50	.17	.04	.08
17	.63	.40	.33	.96	.57	.47	.50	1.4	.49	.15	.13	.08
18	.62	.41	.34	.96	.56	.50	.48	1.3	.49	.14	.17	.08
19	.61	.42	.34	.92	.52	.53	.43	1.2	.50	.15	.11	.07
20	.62	.42	.34	.88	.50	.57	.43	1.2	.49	.14	.07	.07
21	.57	.43	.34	.87	.50	.56	.37	1.2	.46	.14	.05	.07
22	.57	.43	.34	.87	.50	.56	.35	1.2	.44	.12	.06	.07
23	.56	.43	.34	.87	.59	.57	.33	1.2	.43	.11	.06	.08
24	.57	.41	.30	.86	.52	.59	.29	1.2	.39	.11	.06	.08
25	.55	.41	.30	.79	.50	.83	.29	1.2	.38	.09	.06	.08
26	.53	.44	.30	.79	.50	.60	.30	1.1	.36	.07	.06	.09
27	.54	.43	.30	.79	.50	.57	.32	1.0	.34	.07	.07	.14
28	.54	.44	.31	.81	.50	.60	.28	1.0	.33	.08	.07	.15
29	.54	.46	.33	.79	---	.58	.26	.99	.33	.07	.06	.13
30	.55	.45	.51	.77	---	.60	.27	.94	.31	.07	.06	.12
31	.54	---	.44	.71	---	.60	---	.90	---	.08	.07	---
TOTAL	23.05	13.51	11.25	87.49	16.41	16.72	12.95	92.96	16.44	5.27	2.22	2.19
MEAN	.74	.45	.36	2.82	.59	.54	.43	3.00	.55	.17	.072	.073
MAX	1.6	.61	.51	22	.71	.83	.59	.49	.88	.29	.17	.15
MIN	.53	.40	.30	.39	.50	.44	.26	.23	.31	.07	.04	.03
AC-FT	46	27	22	174	33	33	26	184	33	10	4.4	4.3
CAL YR 1976	TOTAL	719.73	MEAN	1.97	MAX	209	MIN	.04	AC-FT	1430		
WTR YR 1977	TOTAL	300.46	MEAN	.82	MAX	49	MIN	.03	AC-FT	596		

LOCATION.--Lat. 34°25'25", long 119°20'25", in Santa Ana Grant, Ventura County, on upstream end of right abutment of bridge on Santa Ana Road, 400 ft (122 m) upstream from unnamed tributary, and 3.0 mi (4.8 km) northwest of Oak View.

PERIOD OF RECORD.--October 1958 to current year.

GAGE.--Water-stage recorder. Datum of gage is 612.43 ft (186.669 m) above mean sea level (Bureau of Reclamation bench mark). Prior to Aug. 17, 1970, on downstream end of right abutment at same datum.

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

COOPERATION.--One discharge measurement was furnished by Ventura County Flood Control District.

AVERAGE DISCHARGE.--19 years, 4.93 ft<sup>3</sup>/s (0.140 m<sup>3</sup>/s), 3,570 acre-ft/yr (4.40 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,730 ft<sup>3</sup>/s (134 m<sup>3</sup>/s) Jan. 25, 1969, gage height, 10.70 ft (3.261 m); no flow at times in each year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 2, 1938, reached a discharge of 3,780 ft<sup>3</sup>/s (107 m<sup>3</sup>/s), by slope-area measurement at site 2.0 mi (3.2 km) downstream.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 79 ft<sup>3</sup>/s (2.24 m<sup>3</sup>/s) Jan. 2, gage height, 4.29 ft (1.308 m), no peak above base of 150 ft<sup>3</sup>/s (4.25 m<sup>3</sup>/s); no flow for several months.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.4	.16	.04	.02	.53	.07	.05	0	.06			
2	2.0	.14	.03	6.8	.52	.07	.06	0	.05			
3	1.6	.13	.03	12	.51	.07	.05	0	.04			
4	1.2	.13	.04	1.5	.20	.07	.06	0	.04			
5	.83	.09	.04	1.5	.13	.07	.06	0	.04			
6	.72	.09	.03	7.4	.12	.07	.06	0	.04			
7	.66	.07	.03	4.3	.10	.07	.05	0	.04			
8	.54	.06	.03	3.0	.09	.07	.06	.04	.04			
9	.49	.07	.03	2.1	.09	.07	.08	4.3	.04			
10	.44	.07	.03	1.8	.09	.07	.06	2.0	.04			
11	.43	.07	.03	1.7	.09	.07	.05	.47	.04			
12	.41	.07	.03	1.3	.08	.07	.04	.42	.04			
13	.33	.07	.03	1.1	.08	.07	.04	.37	.04			
14	.31	.07	.03	1.1	.09	.07	.04	.09	.04			
15	.35	.05	.03	.98	.07	.07	.03	.07	.03			
16	.42	.06	.03	.72	.07	.23	.03	.06	.03			
17	.44	.06	.03	.92	.09	.10	.04	.04	.02			
18	.43	.06	.03	.89	.09	.08	.04	.04	.02			
19	.45	.05	.02	.79	.09	.07	.03	.06	.02			
20	.48	.04	.02	.77	.09	.06	.03	.22	.03			
21	.42	.05	.02	.75	.09	.05	.03	.22	.03			
22	.42	.04	.02	.71	.09	.05	.02	.25	.02			
23	.44	.04	.02	.66	.10	.06	.02	.33	.02			
24	.43	.04	.02	.69	.09	.06	.02	.37	.02			
25	.45	.04	.02	.66	.08	.12	.01	.42	.02			
26	.33	.04	.02	.63	.08	.05	.01	.41	.02			
27	.29	.04	.02	.62	.08	.05	0	.34	.02			
28	.28	.03	.02	.64	.08	.05	.01	.31	.01			
29	.22	.03	.02	.63	---	.05	.01	.28	.01			
30	.16	.03	.04	.57	---	.05	0	.26	0			
31	.16	---	.03	.53	---	.04	---	.11	---			---
TOTAL	18.53	1.99	.86	57.78	3.91	2.22	1.09	11.48	.91	0	0	0
MEAN	.60	.066	.028	1.86	.14	.072	.036	.37	.030	0	0	0
MAX	2.4	.16	.04	12	.53	.23	.08	4.3	.06	0	0	0
MIN	.16	.03	.02	.02	.07	.04	0	0	0	0	0	0
AC-FT	37	3.9	1.7	115	7.8	4.4	2.2	23	1.8	0	0	0
CAL YR 1976	TOTAL 420.93		MEAN 1.15	MAX 163	MIN 0	AC-FT 835						
WTR YR 1977	TOTAL 98.77		MEAN .27	MAX 12	MIN 0	AC-FT 196						

## VENTURA RIVER BASIN

11118000 COYOTE CREEK NEAR VENTURA, CA

LOCATION.--Lat 34°21'26", long 119°18'46", near southeast corner of Santa Ana Grant, Ventura County, on right bank 200 ft (61 m) downstream from bridge on Santa Ana Road, 0.3 mi (0.5 km) upstream from mouth, 1.6 mi (2.6 km) downstream from Casitas Reservoir, and 5.5 mi (8.8 km) northwest of Ventura.

DRAINAGE AREA.--41.2 mi<sup>2</sup> (106.7 km<sup>2</sup>).

PERIOD OF RECORD.--October 1927 to September 1932, October 1933 to September 1958, October 1969 to current year.

GAGE.--Water-stage recorder. Datum of gage is 224.95 ft (68.565 m) above mean sea level (Ventura County Flood Control bench mark). See WSP 1735 for history of changes prior to Oct. 1, 1969.

REMARKS.--Records fair. Flow mostly regulated by Casitas Reservoir since October 1959, capacity, 267,000 acre-ft (329 hm<sup>3</sup>).

AVERAGE DISCHARGE.--30 years (water years 1928-32, 1934-58), 13.2 ft<sup>3</sup>/s (0.374 m<sup>3</sup>/s), 9,560 acre-ft/yr (11.8 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,500 ft<sup>3</sup>/s (326 m<sup>3</sup>/s) Mar. 2, 1938, on basis of slope-area measurement of maximum flow; no flow at times in some years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 62 ft<sup>3</sup>/s (1.76 m<sup>3</sup>/s) Jan. 2, gage height, 7.52 ft (2.292 m); no flow several months.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.06	.02	.04	.11	.14	.19	.14	.08	.06			
2	.06	.01	.04	7.3	.14	.16	.15	.07	.06			
3	.06	0	.04	2.8	.14	.16	.15	.06	.05			
4	.06	0	.05	.50	.14	.16	.14	.06	.05			
5	.06	0	.05	.68	.16	.16	.15	.06	.05			
6	.06	0	.04	3.3	.16	.16	.15	.05	.05			
7	.06	0	.04	.36	.16	.16	.15	.06	.06			
8	.06	0	.05	.28	.16	.17	.16	.22	.06			
9	.06	0	.05	.25	.16	.17	.16	.22	.06			
10	.06	0	.05	.22	.16	.19	.15	.10	.05			
11	.06	.02	.04	.22	.16	.19	.15	.09	.04			
12	.06	.03	.04	.22	.16	.19	.15	.15	.04			
13	.06	.01	.04	.19	.18	.16	.16	.09	.04			
14	.06	.01	.07	.19	.19	.16	.16	.07	.04			
15	.06	.01	.07	.16	.18	.16	.15	.08	.02			
16	.05	.01	.06	.16	.18	.40	.14	.06	.02			
17	.05	.01	.07	.16	.19	.14	.14	.06	.01			
18	.05	.01	.07	.16	.19	.14	.13	.05	0			
19	.05	.01	.06	.16	.19	.14	.12	.05	0			
20	.05	.01	.07	.16	.18	.13	.12	.05	0			
21	.04	.01	.07	.14	.19	.14	.12	.06	0			
22	.04	.01	.06	.14	.18	.14	.11	.06	0			
23	.04	.01	.07	.14	.20	.14	.11	.07	0			
24	.04	.02	.07	.14	.19	.14	.09	.07	0			
25	.03	.02	.06	.14	.16	.34	.08	.06	0			
26	.03	.03	.07	.14	.16	.14	.08	.05	0			
27	.03	.02	.07	.14	.17	.14	.08	.05	0			
28	.03	.03	.06	.16	.19	.14	.08	.06	0			
29	.03	.03	.06	.14	---	.14	.07	.06	0			
30	.03	.04	.19	.14	---	.14	.07	.05	0			
31	.03	---	.14	.14	---	.14	---	.05	---			---
TOTAL	1.52	.38	1.96	19.14	4.76	5.23	3.81	2.37	.76	0	0	0
MEAN	.049	.013	.063	.62	.17	.17	.13	.077	.025	0	0	0
MAX	.06	.04	.19	7.3	.20	.40	.16	.22	.06	0	0	0
MIN	.03	0	.04	.11	.14	.13	.07	.05	0	0	0	0
AC-FT	3.0	.8	3.9	38	9.4	10	7.6	4.7	1.5	0	0	0
CAL YR 1976	TOTAL 32.44	MEAN .089	MAX 8.7	MIN 0	AC-FT 64							
WTR YR 1977	TOTAL 39.93	MEAN .11	MAX 7.3	MIN 0	AC-FT 79							

11118500 VENTURA RIVER NEAR VENTURA, CA

LOCATION.--Lat 34°21'08", long 119°18'27", in southeast corner of Santa Ana Grant, Ventura County, on right bank 50 ft (15 m) downstream from bridge on Casitas Pass Road at Foster Memorial Park, 0.2 mi (0.3 km) downstream from Coyote Creek, and 5 mi (8 km) north of Ventura.

DRAINAGE AREA.--188 mi<sup>2</sup> (487 km<sup>2</sup>).

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September 1911 to January 1914, October 1929 to current year; combined records of river and diversion, October 1932 to current year.

GAGE.--Water-stage recorder on river; water-stage recorder and Parshall flume on diversion. Datum of gage is 205.23 ft (62.554 m) above mean sea level (Ventura County Flood Control bench mark). See WSP 1315-B for history of changes prior to Nov. 2, 1949. Nov. 2, 1949, to June 12, 1969, at site 450 ft (137 m) downstream at datum 4.00 ft (1.219 m) lower.

REMARKS.--Records poor. Flow partly regulated since March 1948 by Matilija Reservoir, capacity, 3,800 acre-ft (4.69 hm<sup>3</sup>) and since October 1959 by Casitas Reservoir, capacity, 267,000 acre-ft (329 hm<sup>3</sup>). Water diverted to Casitas Reservoir on Coyote Creek since January 1959. Diversion by city of Ventura for municipal supply began prior to 1911. AVERAGE DISCHARGE (River only) represents flow to ocean regardless of upstream development. For records of combined discharge of river and Ventura City diversion, see following page.

AVERAGE DISCHARGE.--River only: 50 years (water years 1912-13, 1930-77), 52.8 ft<sup>3</sup>/s (1.495 m<sup>3</sup>/s), 38,250 acre-ft/yr (47.2 hm<sup>3</sup>/yr).

Combined river and diversion: 45 years, 61.7 ft<sup>3</sup>/s (1.747 m<sup>3</sup>/s), 44,700 acre-ft/yr (55.1 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--River only: Maximum discharge, 58,000 ft<sup>3</sup>/s (1,640 m<sup>3</sup>/s) Jan. 25, 1969, gage height, 24.3 ft (7.41 m), present datum, from floodmarks, from rating curve extended above 19,600 ft<sup>3</sup>/s (555 m<sup>3</sup>/s) on basis of contracted-opening measurement of maximum flow; no flow at times in many years. Combined river and diversion: Maximum discharge, 58,000 ft<sup>3</sup>/s (1,640 m<sup>3</sup>/s) Jan. 25, 1969; minimum daily, 0.10 ft<sup>3</sup>/s (0.003 m<sup>3</sup>/s) Sept. 3, 4, 13, 1961.

EXTREMES FOR CURRENT YEAR.--River only: Maximum discharge, 856 ft<sup>3</sup>/s (24.2 m<sup>3</sup>/s) Jan. 2, gage height, 8.01 ft (2.441 m); no flow for several months. Combined river and diversion: Maximum discharge, 863 ft<sup>3</sup>/s (24.4 m<sup>3</sup>/s) Jan. 2; minimum daily, 4.6 ft<sup>3</sup>/s (0.13 m<sup>3</sup>/s) Sept. 18.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.08			0	.38	.10	.03	0	.13			
2	.05			51	.32	.07	.04	0	.10			
3	.01			71	.38	1.5	.05	0	.05			
4	0			2.4	.32	.17	.07	0	.05			
5	0			.93	.26	.53	.05	0	.04			
6	0			114	.38	2.0	.04	0	.05			
7	0			41	.32	2.2	.03	0	.05			
8	0			12	.32	2.4	.03	.17	.03			
9	0			9.4	.32	3.2	.04	26	.01			
10	0			5.6	.21	3.6	.04	4.9	0			
11	0			2.6	.17	1.5	.04	.45	0			
12	0			1.6	.17	.53	.04	.35	0			
13	0			.62	.26	.72	.03	.26	0			
14	0			.32	.26	.53	.02	.21	0			
15	0			.26	.21	.53	.01	.26	0			
16	0			.62	.17	9.3	.01	.38	0			
17	0			.38	.13	3.0	.01	.21	0			
18	0			.32	.13	.13	.02	.21	0			
19	0			.32	.13	.17	.01	.17	0			
20	0			.72	.17	.45	0	.17	0			
21	0			.38	.26	3.5	0	.13	0			
22	0			.38	.32	1.9	0	.21	0			
23	0			.72	.26	.07	0	.32	0			
24	0			.38	.10	.05	0	.32	0			
25	0			.38	.05	.65	0	.21	0			
26	0			.45	.05	.17	0	.32	0			
27	0			.53	.05	.53	0	.26	0			
28	0			.38	.10	.13	0	.21	0			
29	0			.38	---	.13	0	.21	0			
30	0			.32	---	.05	0	.21	0			
31	0	---		.32	---	.04	---	.17	---			---
TOTAL	.14	0	0	319.71	6.20	39.85	.61	36.31	.51	0	0	0
MEAN	.005	0	0	10.3	.22	1.29	.020	1.17	.017	0	0	0
MAX	.08	0	0	114	.38	9.3	.07	26	.13	0	0	0
MIN	0	0	0	0	.05	.04	0	0	0	0	0	0
AC-FT	.3	0	0	634	12	79	1.2	72	1.0	0	0	0

CAL YR 1976 TOTAL 685.18 MEAN 1.87 MAX 387 MIN 0 AC-FT 1360  
WTR YR 1977 TOTAL 403.33 MEAN 1.11 MAX 114 MIN 0 AC-FT 800

COMBINED DISCHARGE, IN CUBIC FEET PER SECOND, OF VENTURA RIVER AND VENTURA CITY DIVERSION NEAR VENTURA, CA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.8	6.5	5.6	5.7	10	11	10	7.5	10	8.6	7.2	6.2
2	6.8	6.5	5.6	57	12	5.7	5.8	10	8.5	6.8	7.1	5.9
3	7.9	6.4	5.6	79	11	11	9.3	9.9	8.1	7.4	7.0	6.1
4	9.7	6.3	5.6	11	11	11	11	9.8	8.1	5.9	6.9	6.1
5	9.5	6.3	5.6	9.8	9.7	6.5	11	9.7	7.5	8.8	6.9	6.1
6	9.4	6.2	5.6	121	9.0	7.4	8.8	9.7	11	8.6	6.8	6.0
7	9.2	6.2	5.6	49	11	6.6	11	7.6	10	8.4	6.8	6.0
8	8.9	6.1	5.6	21	11	7.8	10	7.5	10	8.2	6.8	6.0
9	8.3	6.1	5.5	19	11	8.3	8.8	36	9.9	7.4	6.7	5.9
10	8.7	6.0	5.5	17	9.7	12	7.5	16	9.9	5.8	6.7	5.9
11	8.5	6.0	5.6	15	11	13	11	12	7.5	8.4	6.6	5.9
12	8.3	6.0	5.5	14	8.6	13	11	12	7.4	8.2	6.6	5.8
13	7.9	5.9	5.6	13	10	9.1	10	12	10	7.3	6.6	5.8
14	8.0	5.9	5.5	12	10	10	10	11	9.9	7.7	6.5	5.8
15	7.8	5.9	5.6	9.5	10	9.9	10	7.9	9.9	7.6	6.5	5.7
16	7.7	5.9	5.5	9.6	10	20	8.3	12	9.7	6.0	6.5	5.7
17	7.6	5.9	5.5	11	9.2	14	7.7	12	9.6	7.8	6.5	5.7
18	7.5	5.8	5.6	11	9.5	9.4	9.9	11	7.5	7.7	6.4	4.6
19	7.4	5.8	5.5	8.4	9.4	9.9	10	11	9.3	7.5	6.5	5.8
20	7.4	5.8	5.5	10	8.9	9.5	10	10	9.6	7.4	6.4	5.7
21	7.3	5.8	5.5	11	6.6	11	10	9.7	9.4	7.3	6.4	5.6
22	7.3	5.7	5.4	8.7	11	13	9.8	8.5	9.3	7.3	6.4	5.5
23	7.2	5.7	5.5	9.4	11	10	9.8	11	9.2	6.7	6.4	5.5
24	7.1	5.7	5.5	13	11	9.6	8.3	11	9.1	6.4	6.4	5.4
25	7.0	5.7	5.5	11	11	12	9.9	8.2	6.5	7.5	6.3	5.4
26	6.9	5.7	5.5	9.3	8.1	7.1	10	10	7.5	7.3	6.4	5.3
27	6.9	5.7	5.4	13	7.8	8.6	9.9	10	9.3	7.2	6.3	5.3
28	6.8	5.6	4.7	12	11	13	9.8	7.9	9.1	7.1	6.3	5.2
29	6.7	5.6	5.1	11	---	12	9.8	8.3	8.9	7.1	6.2	5.2
30	6.7	5.6	5.8	9.0	---	11	8.4	11	8.8	5.3	6.2	5.1
31	6.6	---	5.7	8.8	---	10	---	10	---	7.4	6.2	---
TOTAL	242.8	178.3	170.8	619.2	279.5	322.4	286.8	340.2	270.5	228.1	203.5	170.2
MEAN	7.83	5.94	5.51	20.0	9.98	10.4	9.56	11.0	9.02	7.36	6.56	5.67
MAX	9.8	6.5	5.8	121	12	20	11	36	11	8.8	7.2	6.2
MIN	6.6	5.6	4.7	5.7	6.6	5.7	5.8	7.5	6.5	5.3	6.2	4.6
AC-FT	482	354	339	1230	554	639	569	675	537	452	404	338
CAL YR 1976	TOTAL	3671.9	MEAN	10.0	MAX	394	MIN	4.1	AC-FT	7280		
WTR YR 1977	TOTAL	3312.3	MEAN	9.07	MAX	121	MIN	4.6	AC-FT	6570		



## SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	OCTOBER			NOVEMBER			DECEMBER		
	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	.08	10							
2	.05	10							
3	.01	10							
4	0	0							
5	0	0							
6	0	0							
7	0	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	0							
23	0	0							
24	0	0							
25	0	0							
26	0	0							
27	0	0							
28	0	0							
29	0	0							
30	0	0							
31	0	0							
TOTAL	.14	---	0	0	0	0	0	0	0

DAY	JANUARY			FEBRUARY			MARCH		
	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	0	0	0	.38	11	.01	.10	10	0
2	51	268	382	.32	11	.01	.07	10	0
3	71	550	292	.38	10	.01	1.5	20	.08
4	2.4	34	.38	.32	8	.01	.17	15	.01
5	.93	22	.56	.26	7	0	.53	12	.02
6	114	565	250	.38	6	.01	2.0	10	.05
7	41	163	11	.32	5	0	2.2	10	.06
8	12	10	.32	.32	5	0	2.4	10	.06
9	9.4	55	1.4	.32	5	0	3.2	10	.09
10	5.6	50	.76	.21	5	0	3.6	30	.49
11	2.6	40	.28	.17	5	0	1.5	10	.04
12	1.6	25	.11	.17	21	.01	.53	10	.01
13	.62	3	.01	.26	20	.01	.72	9	.02
14	.32	3	0	.26	15	.01	.53	8	.01
15	.26	3	0	.21	10	.01	.53	7	.01
16	.62	5	.01	.17	10	0	9.3	162	7.4
17	.38	10	.01	.13	10	0	3.0	17	.25
18	.32	7	.01	.13	10	0	.13	10	0
19	.32	7	.01	.13	10	0	.17	8	0
20	.72	7	.01	.17	10	0	.45	6	.01
21	.38	7	.01	.26	20	.01	3.5	5	.05
22	.38	7	.01	.32	32	.03	1.9	3	.02
23	.72	7	.01	.26	16	.01	.07	3	0
24	.38	7	.01	.10	30	.01	.05	3	0
25	.38	7	.01	.05	25	0	.65	23	.04
26	.45	10	.01	.05	20	0	.17	20	.01
27	.53	15	.02	.05	15	0	.53	15	.02
28	.38	11	.01	.10	12	0	.13	10	0
29	.38	11	.01	---	---	---	.13	10	0
30	.32	11	.01	---	---	---	.05	8	0
31	.32	11	.01	---	---	---	.04	8	0
TOTAL	319.71	---	938.99	6.20	---	.15	39.85	---	8.75



11118500 VENTURA RIVER NEAR VENTURA, CA--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	APRIL			MAY			JUNE		
	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	.03	10		0	0	0	.13	39	.01
2	.04	10		0	0	0	.10	40	.01
3	.05	10		0	0	0	.05	40	.01
4	.07	21		0	0	0	.05	40	.01
5	.05	10		0	0	0	.04	40	0
6	.04	10		0	0	0	.05	43	.01
7	.03	10		0	0	0	.05	40	.01
8	.03	10		.17	1	.01	.03	30	0
9	.04	10		26	78	7.9	.01	20	0
10	.04	10		4.9	21	.49	0	0	0
11	.04	10		.45	10	.03	0	0	0
12	.04	10		.35	14	.01	0	0	0
13	.03	10		.26	9	.01	0	0	0
14	.02	15		.21	9	.01	0	0	0
15	.01	15		.26	9	.01	0	0	0
16	.01	15		.38	9	.01	0	0	0
17	.01	15		.21	9	.01	0	0	0
18	.02	15		.21	9	.01	0	0	0
19	.01	22		.17	9	0	0	0	0
20	0	0		.17	9	0	0	0	0
21	0	0		.13	9	0	0	0	0
22	0	0		.21	14	.01	0	0	0
23	0	0		.32	20	.02	0	0	0
24	0	0		.32	20	.02	0	0	0
25	0	0		.21	20	.01	0	0	0
26	0	0		.32	20	.02	0	0	0
27	0	0		.26	27	.02	0	0	0
28	0	0		.21	30	.02	0	0	0
29	0	0		.21	30	.02	0	0	0
30	0	0		.21	30	.02	0	0	0
31	---	---		.17	30	.01	---	---	---
TOTAL	.61	---	0	36.31	---	8.67	.51	---	.06

DAY	JULY			AUGUST			SEPTEMBER		
	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									
23									
24									
25									
26									
27									
28									
29									
30									
31									
TOTAL	0	0	0	0	0	0	0	0	0
YEAR	403.33		956.62						

## VENTURA RIVER BASIN

11118500 VENTURA RIVER NEAR VENTURA, CA--Continued

## PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	TEMPER- ATURE (DEG C)	INSTAN- TANEOUS DIS- CHARGE (CFS)	SUS- PENDE SEDIM- ENT (MG/L)	SUS- PENDE SEDIM- ENT DIS- CHARGE (T/DAY)	SUS. SED. FALL DIAM. % FINER THAN .002 MM	SUS. SED. FALL DIAM. % FINER THAN .004 MM	SUS. SED. FALL DIAM. % FINER THAN .008 MM	SUS. SED. FALL DIAM. % FINER THAN .016 MM	SUS. SED. FALL DIAM. % FINER THAN .031 MM
JAN										
03...	0755	9.0	33	493	44	78	94	97	99	100
03...	1350	10.5	17	219	10	96	100	--	--	--
04...	1635	11.0	.53	34	.05	--	--	--	--	--
06...	0810	8.0	175	956	452	54	69	79	91	96
06...	1020	7.5	348	1120	1050	61	76	85	94	98
06...	1625	10.0	277	405	303	77	94	98	100	--
MAR										
16...	0900	12.0	2.0	149	.80	--	--	--	--	--
MAY										
09...	0930	13.5	44	135	16	--	--	--	--	--
12...	1715	15.0	.32	150	.13	--	--	--	--	--

DATE	SUS. SED. FALL DIAM. % FINER THAN .062 MM	SUS. SED. SIEVE DIAM. % FINER THAN .062 MM	SUS. SED. FALL DIAM. % FINER THAN .125 MM	SUS. SED. SIEVE DIAM. % FINER THAN .125 MM	SUS. SED. FALL DIAM. % FINER THAN .250 MM	SUS. SED. SIEVE DIAM. % FINER THAN .250 MM	SUS. SED. SIEVE DIAM. % FINER THAN .500 MM	SUS. SED. SIEVE DIAM. % FINER THAN 1.00 MM	SUS. SED. SIEVE DIAM. % FINER THAN 2.00 MM
JAN									
03...	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--
04...	--	99	--	100	--	--	--	--	--
06...	98	--	99	--	100	--	--	--	--
06...	--	98	--	99	--	99	99	100	--
06...	--	--	--	--	--	--	--	--	--
MAR									
16...	--	100	--	--	--	--	--	--	--
MAY									
09...	--	98	--	99	--	100	--	--	--
12...	--	91	--	94	--	98	99	100	--

## PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	NUMBER OF SAM- PLING POINTS	INSTAN- TANEOUS DIS- CHARGE (CFS)	BED MAT. SIEVE DIAM. % FINER THAN .062 MM	BED MAT. SIEVE DIAM. % FINER THAN .125 MM	BED MAT. SIEVE DIAM. % FINER THAN .250 MM	BED MAT. SIEVE DIAM. % FINER THAN .500 MM
SEP							
16...	1030	4	.00	2	4	6	11

DATE	BED MAT. SIEVE DIAM. % FINER THAN 1.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 2.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 4.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 8.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 16.0 MM	BED MAT. SIEVE DIAM. % FINER THAN 32.0 MM	BED MAT. SIEVE DIAM. % FINER THAN 64.0 MM
SEP							
16...	16	24	31	42	55	65	100

11118500 VENTURA RIVER NEAR VENTURA, CA--Continued

PARTICLE-SIZE DISTRIBUTION OF BED SEDIMENT IN TRANSIT WITHIN 0.25 FT OF BED SURFACE,  
WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	TEMPER- ATURE (DEG C)	NUMBER OF SAM- PLING POINTS	INSTAN- TANEOUS DIS- CHARGE (CFS)	STREAM WIDTH (FT)	SEDI- MENT BEDLOAD DIS- CHARGE (T/DAY)	SED. BEDLOAD SIEVE DIAM. % FINER THAN .062 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN .125 MM
JAN								
06...	0840	7.5	10	305	65	.65	2	5
07...	1210	10.0	3	43	23	.05	0	7

DATE	SED. BEDLOAD SIEVE DIAM. % FINER THAN .250 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN .500 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 1.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 2.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 4.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 8.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 16.0 MM
JAN							
06...	23	65	84	92	98	100	100
07...	25	68	86	93	100	--	--

## CARPINTERIA CREEK BASIN

11119500 CARPINTERIA CREEK NEAR CARPINTERIA, CA

LOCATION.--Lat 34°24'05", long 119°29'10", in El Rincon Grant, Santa Barbara County, on right bank at downstream side of bridge on State Highway 192, 235 ft (72 m) downstream from Gobernador Creek, and 1.8 mi (2.9 km) northeast of Carpinteria.

DRAINAGE AREA, --13.1 mi<sup>2</sup> (33.9 km<sup>2</sup>).

PERIOD OF RECORD.--January 1941 to Sept. 30, 1977 (discontinued).

GAGE.--Water-stage recorder. Altitude of gage is 130 ft (40 m), from topographic map. Prior to July 1, 1958, at datum 6.00 ft (1.829 m) higher. July 2, 1958, to Aug. 27, 1970, at site 35 ft (11 m) upstream at datum 4.00 ft (1.219 m) higher.

REMARKS.--Records poor. No regulation above station. Gobernador Land and Water Co. diverts from Gobernador Creek 1.8 mi (2.9 km) above station. Small lake 0.8 mi (1.3 km) southeast of station and outside the drainage area stores storm runoff and surplus water diverted by Gobernador Land and Water Co. from Gobernador Creek. At times this lake is drained by pumping water back into Gobernador Creek 1,000 ft (305 m) above station. No gage-height record Apr. 5, 1977 (1015 hrs) to Sept. 30, 1977. Gage was temporarily removed to facilitate channel work.

AVERAGE DISCHARGE.--36 years, 2.86 ft<sup>3</sup>/s (0.081 m<sup>3</sup>/s), 2,070 acre-ft/yr (2.55 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,880 ft<sup>3</sup>/s (251 m<sup>3</sup>/s) Dec. 27, 1971, gage height, 14.10 ft (4.298 m), from floodmark, from rating curve extended above 130 ft<sup>3</sup>/s (3.68 m<sup>3</sup>/s) on basis of slope-area measurement of maximum flow; no flow at times in each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 246 ft<sup>3</sup>/s (6.97 m<sup>3</sup>/s) Jan. 2 (2200 hrs), gage height 2.87 ft (0.875 m), no other peaks above base of 125 ft<sup>3</sup>/s (3.54 m<sup>3</sup>/s); no flow many months.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.49	0	0	0		0		0				
2	.50	0	0	24		0		0				
3	.12	0	0	18		0		0				
4	.42	0	0	1.3		0		0				
5	.40	0	0	1.1		0		0				
6	0	0	0	2.1		0		0				
7	0	0	0	1.9		0		0				
8	0	0	0	.54		0		0				
9	.34	0	0	.06		0		14				
10	0	0	1.4	0		0		3.0				
11	0	0	2.7	.10		0		0				
12	0	.73	2.5	.24		0		0				
13	0	0	2.3	.03		0		0				
14	0	0	1.3	.01		0		0				
15	0	0	.09	0		0		0				
16	0	0	0	0		1.2		0				
17	0	0	0	0		.19		0				
18	0	0	0	0		0		0				
19	0	0	0	0		0		0				
20	0	0	0	0		0		0				
21	0	0	0	0		0		0				
22	0	0	0	0		0		0				
23	0	0	0	0		0		0				
24	0	0	0	0		0		0				
25	0	0	0	.21		.44		0				
26	0	0	0	.09		0		0				
27	0	0	0	0		0		0				
28	0	0	0	0		0		0				
29	0	0	0	0	---	0		0				
30	0	0	.24	0	---	0		0				
31	0	---	.12	0	---	0	---	0	---			---
TOTAL	2.27	.73	10.65	49.68	0	1.83	0	17.0	0	0	0	0
MEAN	.073	.024	.34	1.60	0	.059	0	.55	0	0	0	0
MAX	.50	.73	2.7	24	0	1.2	0	14	0	0	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	4.5	1.4	21	99	0	3.6	0	34	0	0	0	0
CAL YR 1976	TOTAL	246.23	MEAN .67	MAX 85	MIN 0	AC-FT 488						
WTR YR 1977	TOTAL	82.16	MEAN .23	MAX 24	MIN 0	AC-FT 163						

## 11119530 FRANKLIN CREEK AT CARPINTERIA, CA

LOCATION.--Lat 34°24'15", long 119°31'05", in Pueblo Lands of Santa Barbara, Santa Barbara County, on right bank 300 ft (91 m) downstream from Malibu Drive bridge, 0.5 mi (0.8 km) north of Carpinteria, and 0.9 mi (1.4 km) upstream from mouth.

DRAINAGE AREA.--1.81 mi<sup>2</sup> (4.69 km<sup>2</sup>).

PERIOD OF RECORD.--October 1970 to current year.

GAGE.--Water-stage recorder and concrete channel. Altitude of gage is 30 ft (9 m), from topographic map.

REMARKS.--Records poor, affected by backwater most of year. No regulation or diversion above station. No gage-height record from Apr. 4 to Aug. 30 due to channel construction.

AVERAGE DISCHARGE.--7 years, 0.70 ft<sup>3</sup>/s (0.020 m<sup>3</sup>/s), 507 acre-ft/yr (625,000 m<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,600 ft<sup>3</sup>/s (45.3 m<sup>3</sup>/s) Dec. 27, 1971, gage height, 6.1 ft (1.86 m), from floodmark, from rating curve extended above 25 ft<sup>3</sup>/s (0.71 m<sup>3</sup>/s) on basis of computation of flow in concrete channel; minimum daily, 0.01 ft<sup>3</sup>/s (<0.001 m<sup>3</sup>/s) Oct. 1 to Nov. 24, 1970.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 100 ft<sup>3</sup>/s (2.83 m<sup>3</sup>/s) revised, and maximum (\*), peak discharge estimated:

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)
Jan. 2	1930	210 5.95	4.65 1.417
May 9	Unknown	*Unknown Unknown	Unknown

Minimum daily discharge, 0.07 ft<sup>3</sup>/s (0.002 m<sup>3</sup>/s) Aug. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.38	.25	.19	.28	.19	.28	.41	.17	.16	.18	.11	.11
2	.33	.26	.33	.26	.22	.28	.42	.17	.17	.18	.10	.11
3	.29	.28	.33	1.8	.21	.28	.38	.16	.19	.18	.09	.11
4	.28	.31	.19	.77	.19	.28	.41	.16	.20	.17	.08	.11
5	.28	.34	.18	3.1	.23	.28	.38	.16	.20	.17	.07	.11
6	.28	.36	.26	1.3	.23	.35	.37	.16	.21	.17	.08	.11
7	.26	.44	.24	.90	.18	.42	.35	.16	.22	.17	.10	.11
8	.23	.48	.18	.32	.18	.35	.33	.16	.23	.17	.11	.11
9	.24	.29	.18	.32	.18	.28	.31	.30	.24	.17	.13	.11
10	.28	.31	.16	.28	.14	.42	.29	.40	.25	.17	.15	.11
11	.28	2.6	.18	.23	.14	.77	.28	.33	.25	.18	.15	.11
12	.27	.32	.18	.23	.14	.58	.27	.27	.24	.18	.15	.11
13	.23	.23	.18	.23	.14	.35	.26	.22	.24	.18	.15	.11
14	.23	.23	.18	.23	.11	.28	.25	.19	.23	.19	.15	.11
15	.24	.22	.17	.18	.10	.28	.24	.17	.23	.19	.15	.11
16	.23	.22	.18	.14	.18	5.1	.23	.15	.22	.19	.15	.11
17	.23	.21	.18	.14	.28	.11	.23	.14	.22	.20	.15	.11
18	.22	.20	.18	.14	.35	.09	.22	.13	.21	.20	.15	.11
19	.23	.18	.17	.11	.35	.09	.22	.12	.21	.20	.15	.11
20	.23	.20	.19	.23	.35	.11	.21	.11	.21	.19	.15	.11
21	.20	.18	.19	.14	.35	.11	.21	.10	.20	.19	.15	.11
22	.19	.18	.19	.18	.42	.08	.20	.09	.20	.19	2.8	.11
23	.20	.19	.20	.28	.55	.11	.19	.09	.20	.18	.20	.11
24	.21	.18	.20	.28	.20	.77	.19	.10	.19	.18	.15	.11
25	.22	.19	.15	.35	.18	1.6	.19	.11	.19	.17	.13	.11
26	.20	.19	.15	.35	.19	.24	.18	.12	.19	.17	.12	.11
27	.18	.19	.16	.35	.23	.28	.18	.13	.19	.17	.12	.11
28	.20	.18	.14	.60	.25	.33	.18	.14	.18	.16	.11	.11
29	.20	.18	.17	.18	---	.35	.17	.14	.18	.16	.11	.11
30	.24	.18	1.4	.14	---	.35	.17	.15	.18	.14	.11	.11
31	.39	---	1.3	.16	---	.41	---	.16	---	.12	.11	---
TOTAL	7.67	9.77	8.28	39.94	6.46	15.61	7.92	34.86	6.23	5.46	6.63	3.30
MEAN	.25	.33	.27	1.29	.23	.50	.26	1.12	.21	.18	.21	.11
MAX	.39	2.6	1.4	26	.55	5.1	.42	.30	.25	.20	2.8	.11
MIN	.18	.18	.14	.11	.10	.08	.17	.09	.16	.12	.07	.11
AC-FT	15	19	16	79	13	31	16	69	12	11	13	6.5
CAL YR 1976	TOTAL 291.34	MEAN .80	MAX 83	MIN .11	AC-FT 578							
WTR YR 1977	TOTAL 152.13	MEAN .42	MAX 30	MIN .07	AC-FT 302							

## MISSION CREEK BASIN

11119750 MISSION CREEK NEAR MISSION STREET, AT SANTA BARBARA, CA

LOCATION.--Lat 34°25'35", long 119°43'20", in Pueblo Lands of Santa Barbara, Santa Barbara County, on left bank just south of end of Los Olivos Street in Santa Barbara.

DRAINAGE AREA.--8.38 mi<sup>2</sup> (21.70 km<sup>2</sup>).

PERIOD OF RECORD.--October 1970 to current year.

GAGE.--Water-stage recorder. Concrete-lined channel. Altitude of gage is 105 ft (32 m), from topographic map.

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

AVERAGE DISCHARGE.--7 years, 2.01 ft<sup>3</sup>/s (0.057 m<sup>3</sup>/s), 1,460 acre-ft/yr (1.80 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,580 ft<sup>3</sup>/s (73.1 m<sup>3</sup>/s) Jan. 18, 1973, gage height, 4.97 ft (1.515 m), from rating curve extended above 41 ft<sup>3</sup>/s (1.16 m<sup>3</sup>/s) on basis of computation of flow in concrete-lined channel; no flow most of each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 569 ft<sup>3</sup>/s (16.1 m<sup>3</sup>/s) Jan. 2 (1930 hrs), gage height, 2.64 ft (0.805 m), from rating curve extended above 57 ft<sup>3</sup>/s (1.61 m<sup>3</sup>/s) on basis of computation of flow in concrete-lined channel, no other peak above base of 400 ft<sup>3</sup>/s (11.3 m<sup>3</sup>/s); no flow for many months.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.2	0	0	0	0	0		1.5			0	
2	.02	0	0	63	0	0		0			0	
3	0	0	0	7.1	0	0		0			0	
4	0	0	0	.13	0	0		0			0	
5	0	0	0	3.1	0	0		0			0	
6	0	0	0	4.4	0	0		0			0	
7	0	0	0	3.6	0	0		1.4			0	
8	0	0	0	.34	0	0		10			0	
9	0	0	0	.09	0	0		14			0	
10	0	0	0	.06	0	0		2.9			0	
11	0	8.6	0	0	0	0		.14			0	
12	0	.26	0	0	0	0		.09			0	
13	0	0	0	0	0	0		0			0	
14	0	0	0	0	0	0		0			0	
15	0	0	0	0	0	0		0			0	
16	0	0	0	0	0	5.7		0			0	
17	0	0	0	0	0	.01		0			.53	
18	0	0	0	0	0	0		0			0	
19	0	0	0	0	0	0		0			0	
20	.03	0	0	0	0	0		0			0	
21	0	0	0	0	0	0		0			0	
22	0	0	0	0	0	0		0			0	
23	0	0	0	0	.01	0		0			0	
24	0	0	0	0	0	.39		0			0	
25	0	0	0	.09	0	.58		0			0	
26	0	0	0	0	0	0		0			0	
27	0	0	0	0	0	.06		0			0	
28	0	0	0	0	0	0		0			0	
29	0	0	0	0	---	0		0			0	
30	0	0	.77	0	---	0		0			0	
31	0	---	.98	0	---	0	---	0	---		0	---
TOTAL	1.25	8.86	1.75	81.91	.01	6.74	0	30.03	0	0	.53	0
MEAN	.040	.30	.057	2.64	.0004	.22	0	.97	0	0	.017	0
MAX	1.2	8.6	.98	63	.01	5.7	0	14	0	0	.53	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	2.5	18	3.5	162	.02	13	0	60	0	0	1.1	0

CAL YR 1976 TOTAL 330.99 MEAN .90 MAX 166 MIN 0 AC-FT 657  
WTR YR 1977 TOTAL 131.08 MEAN .36 MAX 63 MIN 0 AC-FT 260

## 11119760 VICTORIA STREET DRAIN AT OUTLET, AT SANTA BARBARA, CA

LOCATION.--Lat 34°25'09", long 119°42'36", in Pueblo Lands of Santa Barbara, Santa Barbara County, near downstream end of culvert at intersection of Euclid Avenue and Victoria Street in Santa Barbara.

DRAINAGE AREA.--0.625 mi<sup>2</sup> (1.619 km<sup>2</sup>).

PERIOD OF RECORD.--October 1970 to current year. Prior to October 1972, published as "near Santa Barbara."

GAGE.--Water-stage recorder and culvert control. Datum of gage is 58.69 ft (17.889 m) above mean sea level (Santa Barbara County Flood Control and Water Conservation District bench mark).

REMARKS.--Records fair. Flow is from street drainage. During periods of heavy rainfall flood gates on the upper end of this watershed could be closed which would reduce the drainage area by 140 acres (567,000 m<sup>2</sup>).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 155 ft<sup>3</sup>/s (4.39 m<sup>3</sup>/s) Feb. 27, 1973, gage height, 4.01 ft (1.222 m); no flow most of each year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Jan. 25, 1969, reached a stage of 4.26 ft (1.298 m), from floodmark, discharge, 178 ft<sup>3</sup>/s (5.04 m<sup>3</sup>/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 150 ft<sup>3</sup>/s (4.25 m<sup>3</sup>/s) Jan. 2, gage height, 4.00 ft (1.219 m); no flow most of year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.45	0	.05	0	0	0		2.4		0	0	
2	0	0	0	11	0	0		0		0	0	
3	0	0	0	.13	0	0		0		0	0	
4	0	0	0	0	0	0		0		0	0	
5	0	0	0	1.4	0	0		0		0	0	
6	0	0	0	.90	0	0		0		0	0	
7	0	0	0	.57	0	0		.63		0	0	
8	0	0	0	0	0	0		6.3		0	0	
9	0	0	0	0	0	0		2.4		0	0	
10	0	0	0	0	0	0		0		0	0	
11	0	2.7	0	0	0	0		0		0	0	
12	0	0	0	0	0	0		.08		0	0	
13	0	0	0	0	0	0		.01		0	0	
14	0	0	0	0	0	0		0		0	0	
15	0	0	0	0	0	.15		0		0	0	
16	0	0	0	0	0	2.5		0		0	0	
17	0	0	0	0	0	0		0		0	.54	
18	0	0	0	0	0	0		0		0	0	
19	0	0	0	0	0	0		0		0	0	
20	.16	0	0	.04	0	0		0		0	0	
21	0	0	0	0	0	0		0		0	0	
22	0	0	.06	0	0	0		0		0	0	
23	0	0	.02	0	.15	0		0		0	0	
24	0	0	0	0	0	.24		0		0	0	
25	0	0	0	0	0	.36		0		0	0	
26	0	0	0	0	0	0		0		0	0	
27	0	0	0	0	0	0		0		0	0	
28	.02	0	0	0	0	0		0		0	0	
29	0	0	0	0	---	0		0		0	0	
30	0	.04	.82	0	---	0		0		0	0	
31	0	---	.46	0	---	0		0		0	0	
TOTAL	.63	2.74	1.41	14.04	.15	3.25	---	11.82	---	.02	0	---
MEAN	.020	.091	.046	.45	.005	.10	0	.38	0	.02	.54	0
MAX	.45	2.7	.82	11	.15	2.5	0	6.3	0	.0006	.017	0
MIN	0	0	0	0	0	0	0	0	0	0	.54	0
AC-FT	1.2	5.4	2.8	28	.3	6.4	0	23	0	.04	1.1	0
CAL YR 1976	TOTAL	35.60	MEAN .097	MAX 12	MIN 0	AC-FT 71						
WTR YR 1977	TOTAL	34.60	MEAN .095	MAX 11	MIN 0	AC-FT 69						

## ARROYO BURRO CREEK BASIN

11119780 ARROYO BURRO CREEK AT SANTA BARBARA, CA

LOCATION.--Lat 34°26'13", long 119°44'44", in Pueblo Lands of Santa Barbara, Santa Barbara County, on right bank 0.4 mi (0.6 km) south of State Street on Hope Avenue in Santa Barbara.

DRAINAGE AREA.--6.65 mi<sup>2</sup> (17.22 km<sup>2</sup>).

PERIOD OF RECORD.--October 1970 to current year.

REVISED RECORDS.--WDR CA-76-1: 1974, 1975 (M).

GAGE.--Water-stage recorder. Concrete-lined channel with a low-water control. Altitude of gage is 160 ft (49 m), from topographic map.

REMARKS.--Records fair. Small amount of inflow occurs at times from large shopping center that empties water directly into the stream. Partial regulation by Lauro Canyon Reservoir on San Roque Creek.

AVERAGE DISCHARGE.--7 years, 1.76 ft<sup>3</sup>/s (0.050 m<sup>3</sup>/s), 1,280 acre-ft/yr (1.57 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,510 ft<sup>3</sup>/s (42.8 m<sup>3</sup>/s) Jan. 18, 1973, gage height, 5.01 ft (1.527 m); maximum gage height, 5.11 ft (1.558 m) Dec. 3, 1974; no flow many days in each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 718 ft<sup>3</sup>/s (20.3 m<sup>3</sup>/s) Jan. 2 (1715 hrs), gage height 3.73 ft (1.137 m), no other peaks above base of 300 ft<sup>3</sup>/s (8.50 m<sup>3</sup>/s); no flow many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.8	.01	.02	0	0	.01	0	.47	0	0	.01	.01
2	.01	.01	.01	62	0	.02	0	.02	.01	.01	0	.01
3	0	.01	.01	5.0	0	.01	.01	0	0	0	0	0
4	.01	.01	.09	.70	0	0	0	0	.02	0	.01	.01
5	.01	.01	.01	7.7	.01	.04	0	0	.01	.01	0	.01
6	.01	.08	0	5.7	0	.01	0	0	.01	0	0	0
7	.02	0	.01	2.7	.01	.03	0	2.3	0	.01	0	0
8	.02	.01	.17	.10	.01	.01	0	20	0	0	0	0
9	.04	0	.01	0	.01	.02	0	15	.02	.01	0	0
10	.03	.02	.01	.01	0	0	0	.63	0	0	.01	.03
11	.04	5.9	.04	.73	0	0	0	.34	0	0	.01	.02
12	.04	.02	0	.10	0	0	0	.55	0	0	.01	.02
13	.06	0	0	0	0	.01	0	.20	.04	0	.01	.01
14	.04	.01	.01	0	0	.02	0	.12	0	.02	.01	.01
15	.02	0	.01	.24	0	.09	.01	.09	0	0	0	.01
16	.04	0	.02	.26	0	10	.04	.06	0	0	.01	0
17	.04	.01	.13	0	0	.02	0	.01	0	.01	1.3	0
18	.05	0	.02	0	0	0	.01	0	0	.02	0	0
19	.06	.02	.01	0	0	0	0	0	0	0	0	0
20	.13	.02	.01	.25	0	0	0	0	.02	0	0	0
21	0	0	.11	0	0	0	0	0	0	.01	0	0
22	0	.03	.02	0	0	.01	0	.01	.01	0	0	0
23	.01	0	.01	0	.54	0	0	0	0	0	.01	0
24	0	.14	.01	0	0	1.0	.02	.03	0	0	.03	.01
25	.02	0	.01	0	0	.64	0	0	0	.01	.02	.01
26	.03	.01	.01	0	0	0	0	.01	0	0	.01	.01
27	0	0	0	.01	.03	0	0	.01	0	.01	.02	.01
28	.01	0	0	.01	.01	0	.02	0	0	.02	0	0
29	.01	0	0	.01	---	0	0	0	0	.03	.01	0
30	.01	.02	1.7	0	---	0	.01	0	0	.05	0	0
31	.01	---	1.7	0	---	0	---	0	---	.08	.01	---
TOTAL	2.57	6.34	4.16	85.52	.62	11.94	.12	39.85	.14	.30	1.49	.18
MEAN	.083	.21	.13	2.76	.022	.39	.004	1.29	.005	.010	.048	.006
MAX	1.8	5.9	1.7	62	.54	10	.04	20	.04	.08	1.3	.03
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	5.1	13	8.3	170	1.2	24	.2	79	.3	.6	3.0	.4

CAL YR 1976 TOTAL 236.06 MEAN .65 MAX 91 MIN 0 AC-FT 468  
WTR YR 1977 TOTAL 153.23 MEAN .42 MAX 62 MIN 0 AC-FT 304



11119940 MARIA YGNACIO CREEK AT UNIVERSITY DRIVE, NEAR GOLETA, CA

LOCATION.--Lat 34°26'42", long 119°48'10", in Goleta Grant, Santa Barbara County, on right bank at University Drive, 0.2 mi (0.3 km) east of Patterson Avenue, and 1.5 mi (2.4 km) northeast of Goleta.

DRAINAGE AREA.--6.35 mi<sup>2</sup> (16.4 km<sup>2</sup>).

PERIOD OF RECORD.--October 1970 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 60 ft (18 m), from topographic map.

REMARKS.--Records fair. No regulation. Some pumping for irrigation.

AVERAGE DISCHARGE.--7 years, 1.03 ft<sup>3</sup>/s (0.029 m<sup>3</sup>/s), 746 acre-ft/yr (920,000 m<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,470 ft<sup>3</sup>/s (41.6 m<sup>3</sup>/s) Jan. 18, 1973, gage height, 4.06 ft (1.237 m), from rating curve extended above 260 ft<sup>3</sup>/s (7.36 m<sup>3</sup>/s) on basis of computation of flow in trapezoidal section; no flow most of each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 148 ft<sup>3</sup>/s (4.19 m<sup>3</sup>/s) Jan. 2 (1930 hrs), gage height, 2.20 ft (0.671 m); no other peaks above base of 75 ft<sup>3</sup>/s (2.12 m<sup>3</sup>/s); no flow many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.7	0	0	0	.02	0		.14	0		0	
2	.23	0	0	13	0	0		0	0		0	
3	0	0	0	2.2	0	0		0	0		0	
4	0	0	0	.17	0	0		0	0		0	
5	0	0	0	2.0	0	0		0	0		0	
6	0	0	0	3.5	0	0		0	.16		0	
7	0	0	0	3.0	0	0		.19	0		0	
8	0	0	0	.36	0	0		3.1	0		0	
9	0	0	0	.19	0	0		8.3	0		0	
10	0	0	0	.10	0	0		.88	0		0	
11	0	1.2	0	0	0	0		.29	0		0	
12	0	.41	0	0	0	0		.21	0		0	
13	0	0	0	0	0	0		.17	0		0	
14	0	0	0	0	0	0		.07	0		0	
15	0	0	0	0	0	0		.06	0		0	
16	0	.04	0	0	0	2.6		0	0		0	
17	0	0	0	0	0	.16		0	0		.02	
18	0	0	0	0	0	0		0	0		0	
19	0	0	0	0	0	0		0	0		0	
20	0	0	0	0	0	0		0	0		0	
21	0	0	0	.07	0	0		0	0		0	
22	0	0	0	0	0	0		0	0		0	
23	0	0	0	0	.01	0		0	0		0	
24	0	0	0	0	0	.11		0	0		0	
25	0	0	0	0	0	.61		0	0		0	
26	0	0	0	0	0	0		0	0		0	
27	0	0	0	0	0	0		0	0		0	
28	0	0	0	.05	0	0		0	0		0	
29	0	0	0	0	---	0		0	0		0	
30	0	0	.27	0	---	0		.15	0		0	
31	0	---	.49	0	---	0	---	.18	---		0	---
TOTAL	2.93	1.65	.76	24.64	.03	3.48	0	13.74	.16	0	.02	0
MEAN	.095	.055	.025	.79	.001	.11	0	.44	.005	0	.0006	0
MAX	2.7	1.2	.49	13	.02	2.6	0	8.3	.16	0	.02	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	5.8	3.3	1.5	49	.06	6.9	0	27	.3	0	.04	0
CAL YR 1976	TOTAL	151.50	MEAN .41	MAX 63	MIN 0	AC-FT 301						
WTR YR 1977	TOTAL	47.41	MEAN .13	MAX 13	MIN 0	AC-FT 94						

## ATASCADERO CREEK BASIN

11120000 ATASCADERO CREEK NEAR GOLETA, CA

LOCATION.--Lat 34°25'29", long 119°48'39", in La Goleta Grant, Santa Barbara County, on downstream side of center pier of county road bridge 100 ft (30 m) downstream from Maria Ygnacio Creek, 1.3 mi (2.1 km) upstream from mouth, and 1.3 mi (2.1 km) southeast of Goleta.

DRAINAGE AREA.--18.9 mi<sup>2</sup> (49.0 km<sup>2</sup>).

PERIOD OF RECORD.--October 1941 to current year. Prior to October 1947, published as Alascadero Creek near Goleta.

GAGE.--Water-stage recorder. Datum of gage is 10.59 ft (3.228 m) above mean sea level (Santa Barbara County bench mark). Prior to Oct. 1, 1976, at same site, datum 2.00 ft (0.610 m) higher.  
Prior to Dec. 14, 1967, at site 275 ft (84 m) downstream, datum 2.00 ft (0.610 m) higher.

REMARKS.--Records fair. No regulation above station. Small diversions for irrigation above station. Some low flow results from return irrigation waste water.

AVERAGE DISCHARGE.--36 years, 4.26 ft<sup>3</sup>/s (0.121 m<sup>3</sup>/s), 3,090 acre-ft/yr (3.81 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,380 ft<sup>3</sup>/s (152 m<sup>3</sup>/s) Jan. 18, 1973, gage height, 13.1 ft (3.99 m), from rating curve extended above 2,300 ft<sup>3</sup>/s (65.1 m<sup>3</sup>/s); maximum gage height, 13.3 ft (4.05 m), from floodmark, Dec. 3, 1974; no flow some days in each year.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 100 ft<sup>3</sup>/s (2.83 m<sup>3</sup>/s) and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)
Jan. 2	1945	*960 27.2	6.08 1.853
May 9	0200	280 7.93	3.93 1.198

Minimum daily discharge, no flow many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	.03	.03	.17	.07	.10	.18	2.8	.01	0	0	
2	.41	.04	.02	87	.06	.11	.17	.14	.01	0	0	
3	.10	.02	0	17	.06	.10	.17	.06	.01	0	0	
4	.08	.01	.02	.98	.05	.04	.17	.04	0	.01	0	
5	.06	.04	.01	14	.04	.03	.18	.03	0	0	0	
6	.06	.05	0	13	.07	.02	.17	.02	0	0	0	
7	.06	.04	0	1.0	.04	.01	.17	4.4	0	0	0	
8	.05	.04	0	0	.04	.02	.13	51	0	0	0	
9	.03	.04	.15	0	.04	.02	.11	59	.01	0	0	
10	.01	.04	.26	.21	.03	.01	.09	2.1	.09	0	0	
11	.02	3.1	.01	.18	.03	0	.08	.17	.07	0	0	
12	.04	.79	.01	.23	.04	.01	.09	.28	.04	0	0	
13	.03	.10	.14	.23	.04	.02	.08	.59	0	0	.01	
14	.03	.08	.04	.19	.05	.03	.11	.09	.07	0	0	
15	.03	.06	.04	.13	.06	.03	.10	.07	.07	0	0	
16	.02	.06	.07	.15	.06	20	.12	.06	.06	0	0	
17	0	.03	.04	.09	.06	3.0	.17	.05	.05	0	.99	
18	0	.04	.04	.08	.07	1.2	.12	.04	.02	.01	.38	
19	.02	.03	.03	.08	.11	1.1	.10	.03	.05	.05	0	
20	.08	.04	.02	.24	.16	1.2	.09	.03	.01	0	0	
21	.11	.04	.09	.24	.11	1.4	.07	.07	.15	0	0	
22	.06	.03	.09	.06	.05	1.4	.06	.23	.03	0	0	
23	.04	.02	.05	.04	.44	1.3	.03	.09	.03	0	0	
24	.03	.04	.09	.04	.14	2.1	.01	.18	.03	0	0	
25	.03	.04	.06	.04	.06	5.6	0	.12	.04	0	0	
26	.02	.04	.05	.04	.04	.24	0	.07	.02	0	0	
27	.02	.02	.06	.05	.03	.17	0	.05	0	0	0	
28	.02	0	.06	.10	.08	.17	0	.03	.02	0	0	
29	.01	0	.05	.09	---	.20	0	.03	0	0	0	
30	.02	0	1.4	.07	---	.19	.01	.03	0	0	0	
31	.03	---	1.4	.06	---	.18	---	.02	---	0	0	---
TOTAL	12.52	4.91	4.33	135.79	2.13	40.00	2.78	121.92	.89	.07	1.38	0
MEAN	.40	.16	.14	4.38	.076	1.29	.093	3.93	.030	.002	.045	0
MAX	11	3.1	1.4	87	.44	20	.18	59	.15	.05	.99	0
MIN	0	0	0	0	.03	0	0	.02	0	0	0	0
AC-FT	25	9.7	8.6	269	4.2	79	5.5	242	1.8	.1	2.7	0

CAL YR 1976	TOTAL 767.99	MEAN 2.10	MAX 363	MIN 0	AC-FT 1520
WTR YR 1977	TOTAL 326.72	MEAN .90	MAX 87	MIN 0	AC-FT 648

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 285 ft<sup>3</sup>/s (8.07 m<sup>3</sup>/s) Jan. 2 (2115 hrs), gage height, 4.95 ft (1.509 m), from rating curve extended above 23 ft<sup>3</sup>/s (0.65 m<sup>3</sup>/s) on basis of maximum discharge at old gage site 75 ft (23 m) downstream; no other peaks above base of 100 ft<sup>3</sup>/s (2.83 m<sup>3</sup>/s); minimum daily, 0.01 ft<sup>3</sup>/s (0.001 m<sup>3</sup>/s) Aug. 13-16.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.3	.24	.23	.53	.39	.23	.28	.07	.39	.06	.02	.03
2	1.6	.23	.21	33	.39	.25	.28	.07	.33	.06	.02	.03
3	.69	.21	.19	11	.39	.23	.28	.07	.23	.06	.02	.02
4	.76	.19	.19	1.0	.33	.23	.23	.07	.23	.06	.02	.02
5	.65	.19	.19	1.0	.33	.23	.19	.07	.23	.05	.02	.03
6	.53	.19	.19	3.3	.33	.23	.19	.06	.19	.05	.02	.02
7	.50	.22	.19	4.6	.33	.28	.19	.22	.16	.05	.02	.02
8	.44	.23	.19	1.3	.33	.33	.22	9.7	.09	.05	.02	.02
9	.33	.23	.22	.80	.32	.28	.26	13	.14	.05	.02	.02
10	.23	.22	.23	.59	.39	.28	.21	2.0	.12	.05	.02	.02
11	.23	2.9	.23	.51	.39	.19	.19	.77	.07	.05	.02	.02
12	.27	1.0	.19	.45	.32	.19	.39	.65	.09	.05	.02	.02
13	.31	.69	.18	.45	.12	.28	.45	.53	.09	.06	.01	.02
14	.33	.53	.14	.45	.14	.28	.23	.45	.09	.06	.01	.02
15	.28	.53	.12	.45	.14	.19	.20	.45	.07	.06	.01	.02
16	.28	.53	.12	.39	.12	2.5	.16	.45	.07	.06	.01	.02
17	.28	.49	.12	.39	.18	.86	.15	.53	.12	.06	.02	.02
18	.28	.23	.12	.39	.19	.48	.13	.39	.09	.06	.03	.02
19	.28	.23	.12	.39	.16	.38	.12	.61	.07	.05	.02	.02
20	.28	.26	.12	.39	.19	.28	.11	.61	.09	.05	.02	.02
21	.38	.31	.15	.39	.21	.33	.10	.53	.12	.05	.02	.02
22	.39	.25	.15	.39	.21	.33	.10	.53	.15	.05	.02	.02
23	.39	.23	.17	.39	.34	.33	.09	.61	.09	.05	.04	.03
24	.40	.28	.23	.39	.40	.34	.09	.61	.13	.06	.03	.03
25	.45	.28	.26	.39	.18	1.1	.08	.53	.15	.04	.03	.03
26	.39	.28	.28	.39	.15	.53	.08	.53	.15	.02	.03	.03
27	.28	.28	.28	.39	.15	.45	.08	.61	.14	.02	.03	.03
28	.28	.28	.28	.39	.19	.39	.07	.61	.09	.02	.03	.04
29	.27	.28	.28	.39	---	.33	.07	.45	.07	.02	.03	.03
30	.26	.23	.47	.39	---	.28	.07	.53	.07	.02	.03	.03
31	.25	---	.61	.39	---	.28	---	.45	---	.02	.03	---
TOTAL	16.59	12.24	6.65	65.67	7.31	12.89	5.29	36.76	4.12	1.47	.69	.72
MEAN	.54	.41	.21	2.12	.26	.42	.18	1.19	.14	.047	.022	.024
MAX	4.3	2.9	.61	33	.40	2.5	.45	.13	.39	.06	.04	.04
MIN	.23	.19	.12	.39	.12	.19	.07	.06	.07	.02	.01	.02
AC-FT	33	24	13	130	14	26	10	73	8.2	2.9	1.4	1.4
TOTAL	252.68											
WTR YR 1976	TOTAL	252.68	MEAN	.69	MAX	64	MIN	.02	AC-FT	501		
WTR YR 1977	TOTAL	170.40	MEAN	.47	MAX	33	MIN	.01	AC-FT	338		

## SAN JOSE CREEK BASIN

11120510 SAN JOSE CREEK AT GOLETA, CA

LOCATION.--Lat 34°25'49", long 119°49'16", in La Goleta Grant, Santa Barbara County, on right bank south of Hollister Avenue on Kellogg Avenue, 0.5 mi (0.8 km) southeast of Goleta.

DRAINAGE AREA.--9.42 mi<sup>2</sup> (24.40 km<sup>2</sup>).

PERIOD OF RECORD.--October 1970 to current year.

REVISED RECORDS.--WDR CA-73-1: 1973(M).

GAGE.--Water-stage recorder and concrete low-flow control. Altitude of gage is 10 ft (3 m), from topographic map.

REMARKS.--Records fair. No regulation above station. Diversions for irrigation and domestic use above station.

AVERAGE DISCHARGE.--7 years, 1.97 ft<sup>3</sup>/s (0.056 m<sup>3</sup>/s), 1,430 acre-ft/yr (1.76 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,950 ft<sup>3</sup>/s (55.2 m<sup>3</sup>/s) Jan. 18, 1973, gage height, 5.21 ft (1.588 m), from rating curve extended above 400 ft<sup>3</sup>/s (11.3 m<sup>3</sup>/s) on basis of slope-conveyance computation of flow in concrete channel at gage height 8.00 ft (2.438 m); no flow for long periods in each year.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 150 ft<sup>3</sup>/s (4.25 m<sup>3</sup>/s) and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)		Gage height (ft) (m)	
Oct. 1	1530	221	6.26	2.29	0.698
Nov. 11	1915	232	6.57	2.32	0.707
Jan. 2	1930	*523	14.8	3.05	0.930

Minimum daily discharge, no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.6	0	0	.19	.14	.06	.04	.06			0	0
2	1.3	0	0	52	.22	.07	.08	0			0	0
3	.41	0	0	8.3	.43	0	.08	0			0	0
4	.26	0	0	.98	.39	0	.04	0			0	0
5	.27	0	0	3.8	.31	0	0	0			0	0
6	.05	0	0	9.2	.17	0	0	0			0	0
7	.03	0	0	5.7	.11	0	.11	1.5			0	.01
8	0	0	0	1.1	.07	0	0	9.7			0	0
9	0	0	0	.67	.33	0	0	13			0	0
10	0	0	0	.51	.30	0	0	1.9			0	0
11	0	6.5	0	.38	.07	0	0	.64			0	0
12	.04	.78	0	.34	.07	0	0	.58			0	0
13	0	.17	0	.75	0	0	0	.31			0	0
14	0	.07	0	.73	0	0	0	.23			0	0
15	0	0	0	.21	0	.03	0	.17			0	0
16	0	0	0	.22	0	7.0	0	.14			0	0
17	0	0	0	.24	0	1.0	0	.07		.17	0	0
18	0	0	0	.41	0	.33	0	.04		0	0	0
19	0	0	0	.42	0	.17	0	.02		0	0	0
20	0	0	0	.51	.18	.12	0	.03		0	0	0
21	0	0	0	.54	.61	.10	0	.01		0	0	0
22	.38	0	0	.70	.19	.24	0	.03		0	0	0
23	.01	0	0	.73	.54	.10	0	.31		0	0	0
24	0	0	0	.61	.72	.71	0	.04		0	0	0
25	0	0	0	.42	.42	1.6	0	0		0	0	0
26	0	0	.03	.36	.16	.18	0	0		0	0	0
27	0	0	.19	.18	.31	.10	0	0		0	0	0
28	0	0	0	.24	.21	.09	0	0		0	0	0
29	0	0	0	.14	---	.04	0	0		0	0	0
30	0	0	1.8	.09	---	.04	0	0		0	0	0
31	0	---	1.8	.10	---	.05	---	0	---	0	0	---
TOTAL	12.35	7.52	3.82	90.77	5.95	12.03	.35	28.78	0	0	.17	.01
MEAN	.40	.25	.12	2.93	.21	.39	.012	.93	0	0	.006	.0003
MAX	9.6	6.5	1.8	52	.72	7.0	.11	13	0	0	.17	.01
MIN	0	0	0	.09	0	0	0	0	0	0	0	0
AC-FT	24	15	7.6	180	12	24	.7	57	0	0	.3	.02

CAL YR 1976 TOTAL 246.14 MEAN .67 MAX 78 MIN 0 AC-FT 488  
WTR YR 1977 TOTAL 161.75 MEAN .44 MAX 52 MIN 0 AC-FT 321

## 11120550 GAVIOTA CREEK NEAR GAVIOTA, CA

LOCATION.--Lat 34°29'16", long 120°13'34", in Nuestra Senora Del Refugio Grant, Santa Barbara County, on left bank 1.3 mi (2.1 km) northwest of Gaviota, and 1.6 mi (2.6 km) upstream from mouth.

DRAINAGE AREA.--18.8 mi<sup>2</sup> (48.7 km<sup>2</sup>).

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

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 100 ft (30 m), from topographic map.

REMARKS.--Records fair. No regulation. Small pumping for domestic use.

AVERAGE DISCHARGE.--11 years, 4.64 ft<sup>3</sup>/s (0.131 m<sup>3</sup>/s), 3,360 acre-ft/yr (4.14 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,000 ft<sup>3</sup>/s (113 m<sup>3</sup>/s) Jan. 24, 1967, gage height, 8.40 ft (2.560 m), from rating curve extended above 1,300 ft<sup>3</sup>/s (36.8 m<sup>3</sup>/s) on basis of slope-area measurement of maximum flow; no flow at times in some years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 96 ft<sup>3</sup>/s (2.72 m<sup>3</sup>/s) Jan. 6, gage height, 3.32 ft (1.012 m), no peak above base of 200 ft<sup>3</sup>/s (5.66 m<sup>3</sup>/s); minimum daily, no flow for several days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.39	.22	.24	.42	.39	.31	.24	.13	.23	.08	.04	.05
2	.31	.19	.24	7.5	.39	.31	.25	.11	.19	.08	.02	.04
3	.24	.19	.25	2.3	.31	.31	.25	.12	.19	.08	.01	.03
4	.24	.19	.24	.52	.31	.31	.27	.12	.18	.08	.01	.03
5	.24	.18	.26	1.4	.31	.31	.24	.11	.20	.08	0	.03
6	.24	.19	.24	19	.31	.39	.23	.11	.22	.07	.01	.02
7	.25	.19	.24	5.8	.31	.39	.22	.19	.23	.06	.01	0
8	.23	.19	.24	1.4	.33	.39	.20	7.5	.19	.06	.01	0
9	.19	.18	.24	.83	.32	.38	.21	6.7	.20	.06	.02	0
10	.19	.18	.20	.70	.31	.33	.17	.44	.19	.08	.03	0
11	.21	.49	.20	.59	.31	.31	.16	.31	.17	.08	.03	0
12	.23	.30	.20	.59	.31	.31	.16	.37	.15	.11	.03	0
13	.19	.26	.20	.59	.32	.31	.15	.30	.15	.11	.02	.02
14	.20	.26	.20	.59	.34	.31	.15	.23	.15	.11	.02	.03
15	.20	.26	.20	.55	.31	.39	.15	.22	.15	.09	.01	.03
16	.20	.26	.20	.39	.31	5.7	.14	.20	.14	.08	0	.02
17	.20	.26	.20	.39	.35	.76	.15	.20	.13	.07	0	0
18	.20	.26	.21	.39	.36	.33	.13	.21	.12	.06	0	0
19	.20	.25	.24	.39	.39	.29	.12	.19	.11	.06	0	0
20	.20	.25	.23	.39	.39	.24	.10	.20	.13	.06	0	0
21	.20	.25	.23	.40	.31	.28	.13	.22	.13	.06	0	0
22	.20	.25	.20	.39	.31	.26	.13	.23	.14	.04	0	0
23	.20	.25	.22	.39	.47	.26	.11	.28	.15	.03	.02	0
24	.20	.24	.24	.39	.34	.32	.10	.30	.14	.04	.04	.03
25	.20	.24	.20	.39	.31	.38	.09	.31	.14	.04	.05	.03
26	.20	.24	.23	.39	.31	.28	.10	.30	.14	.03	.04	.03
27	.20	.24	.24	.40	.31	.24	.11	.28	.14	0	0	.03
28	.19	.24	.24	.48	.31	.24	.10	.27	.12	0	0	.03
29	.20	.24	.24	.39	---	.23	.10	.26	.11	0	0	.01
30	.24	.24	1.4	.39	---	.24	.11	.26	.09	.01	.03	0
31	.23	---	2.1	.39	---	.24	---	.25	---	.03	.05	---
TOTAL	6.81	7.18	10.01	49.13	9.35	15.35	4.77	20.92	4.72	1.84	.50	.46
MEAN	.22	.24	.32	1.58	.33	.50	.16	.67	.16	.059	.016	.015
MAX	.39	.49	2.1	19	.47	5.7	.27	7.5	.23	.11	.05	.05
MIN	.19	.18	.20	.39	.31	.23	.09	.11	.09	0	0	0
AC-FT	14	14	20	97	19	30	9.5	41	9.4	3.6	1.0	.9

CAL YR 1976 TOTAL 975.17 MEAN 2.66 MAX 427 MIN .13 AC-FT 1930  
WTR YR 1977 TOTAL 131.04 MEAN .36 MAX 19 MIN 0 AC-FT 260

## JALAMA CREEK BASIN

11120600 JALAMA CREEK NEAR LOMPOC, CA

LOCATION.--Lat 34°30'50", long 120°29'02", in San Julian Grant, Santa Barbara County, on downstream side of right bridge pier on Jalama Road, 0.6 mi (1.0 km) downstream from Gasper Creek, 1.4 mi (2.3 km) upstream from mouth, and 8.9 mi (14.3 km) southwest of Lompoc.

DRAINAGE AREA.--20.5 mi<sup>2</sup> (53.1 km<sup>2</sup>).

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

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 80 ft (24 m), from topographic map.

REMARKS.--Records good. No regulation or diversion above station. Some pumping upstream from wells for irrigation of about 400 acres (1.62 km<sup>2</sup>).

AVERAGE DISCHARGE.--12 years, 2.63 ft<sup>3</sup>/s (0.074 m<sup>3</sup>/s), 1,910 acre-ft/yr (2.36 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,530 ft<sup>3</sup>/s (100 m<sup>3</sup>/s) Jan. 18, 1973, gage height, 9.97 ft (3.039 m), from rating curve extended above 1,700 ft<sup>3</sup>/s (48.1 m<sup>3</sup>/s) on basis of slope-area measurement at gage height 8.05 ft (2.454 m); no flow many days in most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 29 ft<sup>3</sup>/s (0.82 m<sup>3</sup>/s) Jan. 6, gage height, 3.36 ft (1.024 m), no peak above base of 150 ft<sup>3</sup>/s (4.25 m<sup>3</sup>/s); no flow for several months.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.19	.15	.14	.40	.23	.17	.15	.04	0			
2	.20	.13	.13	2.6	.22	.15	.15	.02	0			
3	.10	.13	.14	2.2	.19	.17	.15	.01	.01			
4	.07	.10	.17	.41	.19	.19	.15	0	.01			
5	.04	.10	.19	.43	.19	.16	.13	0	.01			
6	.03	.10	.19	7.5	.19	.15	.13	0	.01			
7	.04	.10	.15	1.5	.19	.15	.13	.05	0			
8	.03	.13	.15	.53	.19	.15	.13	1.3	0			
9	.03	.13	.19	.33	.21	.15	.10	.91	0			
10	.01	.10	.15	.25	.20	.15	.08	.37	0			
11	.04	.16	.15	.24	.19	.15	.08	.19	0			
12	.13	.26	.15	.24	.16	.15	.08	.13	0			
13	.10	.13	.15	.24	.19	.15	.06	.12	0			
14	.08	.13	.15	.24	.19	.15	.06	.10	.01			
15	.08	.14	.18	.24	.17	.15	.06	.09	.01			
16	.09	.13	.16	.24	.15	1.5	.08	.06	.01			
17	.10	.12	.14	.24	.16	.75	.06	.06	.02			
18	.10	.11	.16	.24	.19	.38	.06	.06	.01			
19	.10	.10	.18	.24	.19	.32	.04	.04	.01			
20	.10	.13	.19	.24	.19	.28	.06	.01	.01			
21	.11	.14	.18	.24	.21	.27	.04	.01	.01			
22	.11	.15	.16	.24	.22	.25	.06	.01	.01			
23	.12	.15	.15	.24	.29	.24	.06	.03	.01			
24	.10	.15	.16	.24	.28	.24	.04	.01	.01			
25	.10	.12	.14	.24	.20	.31	.02	.01	.01			
26	.10	.13	.13	.23	.19	.26	.02	.01	.01			
27	.09	.14	.14	.22	.19	.22	.03	0	.01			
28	.09	.13	.14	.24	.19	.19	.02	0	.01			
29	.10	.13	.15	.24	---	.19	.02	0	0			
30	.13	.15	.32	.22	---	.19	.03	0	0			
31	.13	---	.67	.20	---	.19	---	0	---			
TOTAL	2.84	3.97	5.55	21.10	5.55	8.12	2.28	3.64	.20	0	0	0
MEAN	.092	.13	.18	.68	.20	.26	.076	.12	.007	0	0	0
MAX	.20	.26	.67	7.5	.29	1.5	.15	1.3	.02	0	0	0
MIN	.01	.10	.13	.20	.15	.15	.02	0	0	0	0	0
AC-FT	5.6	7.9	11	42	11	16	4.5	7.2	.4	0	0	0
CAL YR 1976	TOTAL	114.05	MEAN .31	MAX	24	MIN 0	AC-FT 226					
WTR YR 1977	TOTAL	53.25	MEAN .15	MAX	7.5	MIN 0	AC-FT 106					

## 11121000 SANTA YNEZ RIVER AT JAMESON LAKE, NEAR MONTECITO, CA

LOCATION.--Lat 34°29'32", long 119°30'25", in SW¼NE¼NW¼ sec.28, T.5 N., R.25 W., Santa Barbara County, on upstream face of Juncal Dam, 6.5 mi (10.5 km) north of Carpinteria, and 8 mi (13 km) northeast of Montecito.

DRAINAGE AREA.--13.9 mi<sup>2</sup> (36.0 km<sup>2</sup>), excludes that of Alder Creek.

PERIOD OF RECORD.--December 1930 to current year. Prior to October 1938, published as "at Juncal Reservoir, near Montecito."

GAGE.--Two water-stage recorders. Datum of lake gage is 2,021.6 ft (616.18 m) above mean sea level (Bureau of Reclamation bench mark), or 2,000 ft (609.6 m) above arbitrary datum (called sea level) generally used for works in this vicinity. Supplementary gage and sharp-crested weir on outlet conduit of lake release, at different datum.

REMARKS.--Records of total inflow represent all water reaching Jameson Lake including precipitation on the lake. Total inflow computed on basis of records of storage, diversion (draft) to the city of Montecito, spill and release to river, and evaporation. Records of net inflow exclude precipitation on lake surface. Monthly evaporation from lake surface computed on basis of evaporation from Colorado land pan using coefficient of 0.80. Area table is based on survey made in 1961. Capacity table is based on survey made in 1969. Lake capacity at spillway level, gage height, 223.82 ft (68.220 m), 6,119 acre-ft (7.54 hm<sup>3</sup>). Dead storage, 18 acre-ft (22,200 m<sup>3</sup>), below lowest outlet at gage height 139.0 ft (42.37 m) included in these records. There is no regulation or diversion above station. At times flow of Alder Creek, which enters Santa Ynez River 2 mi (3 km) downstream from Juncal Dam, is diverted at elevation, 2,250 ft (686 m) through a tunnel to Jameson Lake and is included in these records.

COOPERATION.--Reservoir-operation records and related data were furnished by Montecito County Water District.

AVERAGE DISCHARGE.--46 years (water years 1932-77), 6.24 ft<sup>3</sup>/s (0.177 m<sup>3</sup>/s), 4,520 acre-ft/yr (5.57 hm<sup>3</sup>/yr).

## MONTHLY NET DISCHARGE, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

Date	Gage height (feet) <sup>a</sup>	Contents (acre-feet)	Change in contents (acre-feet)	Draft (acre-feet)	Spill and release (acre-feet)	Evapo-ration (acre-feet)	Total inflow (acre-feet)	Rain on reser-voir (acre-feet)	Net inflow (acre-feet)
Sept. 30.....	219.20	5500	--	--	--	--	--	--	--
Oct. 31.....	218.05	5360	-140	107	0	16	-17	1	-18
Nov. 30.....	216.90	5210	-150	131	0	9	-10	9	-19
Dec. 31.....	215.85	5080	-130	133	0	7	10	13	-3
CAL YR 1976.....	--	--	-120	1012	637	330	1859	282	1577
Jan. 31.....	216.59	5170	+90	62	0	4	156	57	99
Feb. 28.....	216.13	5110	-60	90	0	14	44	2	42
Mar. 31.....	215.66	5060	-50	106	0	23	79	33	46
Apr. 30.....	214.76	4940	-120	105	0	34	19	0	19
May 31.....	216.07	5110	+170	83	0	24	277	64	213
June 30.....	215.11	4990	-120	112	0	44	36	0	36
July 31.....	213.40	4770	-220	147	0	57	-16	0	-16
Aug. 31.....	211.72	4570	-200	139	0	46	-15	5	-20
Sept. 30.....	210.11	4380	-190	125	0	28	-37	0	-37
WTR YR 1977.....	--	--	-1120	1340	0	306	526	184	342

<sup>a</sup> Gage height at 0800.

NOTE.--For months when inflow to the lake was small and other quantities were large, discordant figures of net inflow may appear. This arises primarily from the difficulty of computing net inflow as the residual of several larger quantities, which are not susceptible to measurement with a precision necessary to produce a final answer within desirable limits of accuracy.

## SANTA YNEZ RIVER BASIN

11122000 SANTA YNEZ RIVER ABOVE GIBRALTAR DAM, NEAR SANTA BARBARA, CA

LOCATION.--Lat 34°31'34", long 119°41'08", in SW¼NW¼SW¼ sec.11, T.5 N., R.27 W., Santa Barbara County, on upstream face of Gibraltar Dam, 7 mi (11 km) north of Santa Barbara.

DRAINAGE AREA.--216 mi<sup>2</sup> (559 km<sup>2</sup>).

PERIOD OF RECORD.--April 1920 to current year. November 1903 to November 1918 (fragmentary) at river station at damsite; records not equivalent because records since April 1920 are based on operation of Gibraltar Reservoir, and since December 1930, Jameson Lake. Prior to October 1945, published as "Santa Ynez River near Santa Barbara."

GAGE.--Two water-stage recorders. Datum of reservoir gage is at mean sea level. Supplementary gage and sharp-crested weir on diversion from reservoir at different datum. See WSP 1735 for history of changes on both gages prior to Oct. 1, 1955. Spill and release measured by river gaging station below dam (station 11123000).

REMARKS.--Records of total inflow represent all water reaching Gibraltar Reservoir, including precipitation on reservoir. Total inflow computed on basis of records of storage diversion (draft) to city of Santa Barbara, spill and release to river, and evaporation. Records of net inflow exclude precipitation on reservoir surface. Monthly evaporation from reservoir surface computed on basis of evaporation from Colorado land pan using coefficient of 0.80. Area and capacity tables are based on survey made in October 1973. Reservoir capacity at spillway level, elevation, 1,399.82 ft (426.665 m), 9,300 acre-ft (11.5 hm<sup>3</sup>). Silt level of reservoir at elevation 1,344 ft (410 m). Lowest outlet at elevation 1,333.86 ft (406.561 m). Flow regulated by Jameson Lake (station 11121000) since December 1930.

COOPERATION.--Reservoir-operation records and related data were furnished by city of Santa Barbara.

## MONTHLY NET INFLOW, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

Date	Elevation (feet) <sup>a</sup>	Contents (acre- feet)	Change in contents (acre- feet)	Draft (acre- feet)	Spill and release (acre- feet)	Evapo- ration (acre- feet)	Total inflow (acre- feet)	Rain on reservoir (acre- feet)	Net inflow (acre- feet)
Sept. 30.....	1381.38	5040	--	--	--	--	--	--	--
Oct. 31.....	1377.47	4310	-730	677	57	55	59	4	55
Nov. 30.....	1375.73	4000	-310	325	0	37	52	6	46
Dec. 31.....	1374.48	3790	-210	281	0	27	98	11	87
CAL YR 1976.....	--	--	-1940	6554	538	940	6092	352	5740
Jan. 31.....	1379.19	4620	+830	26	0	18	874	79	795
Feb. 28.....	1379.96	4760	+140	1	0	40	181	4	177
Mar. 31.....	1381.13	4990	+230	43	0	50	323	46	277
Apr. 30.....	1381.41	5040	+50	32	0	78	160	0	160
May 31.....	1385.89	5950	+910	249	0	66	1225	86	1139
June 30.....	1384.23	5610	-340	350	12	100	122	0	122
July 31.....	1382.31	5220	-390	253	24	134	21	0	21
Aug. 31.....	1380.18	4800	-420	291	36	108	15	16	-1
Sept. 30.....	1377.93	4400	-400	301	34	87	22	0	22
WTR YR 1977.....	--	--	-640	2829	163	800	3152	252	2900

<sup>a</sup> Elevation at 0800.

NOTE.--For months when inflow to the reservoir was small and other quantities were large, discordant figures of net inflow may appear. This arises primarily from the difficulty of computing net inflow as the residual of several larger quantities, which are not susceptible to measurement with a precision necessary to produce a final answer within desirable limits of accuracy.



## 11123000 SANTA YNEZ RIVER BELOW GIBRALTAR DAM, NEAR SANTA BARBARA, CA

LOCATION.--Lat 34°31'28", long 119°41'11", in NW¼SW¼SW¼ sec.11, T.5 N., R.27 W., Santa Barbara County, on left bank 700 ft (213 m) downstream from Gibraltar Dam, and 7 mi (11 km) north of Santa Barbara.

DRAINAGE AREA.--216 mi<sup>2</sup> (559 km<sup>2</sup>).

PERIOD OF RECORD.--April 1920 to current year (monthly discharge only prior to October 1941).

GAGE.--Two water-stage recorders. Datum of gage on main channel is 1,227 ft (374 m) above mean sea level. Supplementary gage and sharp-crested weir on the release channel from Gibraltar Dam to river at different datum. See WSP 1735 for history of changes on both gages prior to May 20, 1958.

REMARKS.--Records good. Flow regulated by Jameson Lake (station 11121000) and Gibraltar Reservoir (station 11122000). City of Santa Barbara diverted 2,829 acre-ft (3.49 hm<sup>3</sup>) during current year from Gibraltar Reservoir; Montecito County Water District diverted 1,340 acre-ft (1.65 hm<sup>3</sup>) during current year from Jameson Lake.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 54,200 ft<sup>3</sup>/s (1,530 m<sup>3</sup>/s) Jan. 25, 1969, gage height, 25.8 ft (7.86 m), from rating curve extended above 2,100 ft<sup>3</sup>/s (59.5 m<sup>3</sup>/s) on basis of computations of flow from gate openings and flow over dam at gage heights 17.5 ft (5.33 m) and 25.8 ft (7.86 m); no flow at times in most years.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 2.7 ft<sup>3</sup>/s (0.076 m<sup>3</sup>/s) Oct. 5-12, gage height, unknown; no flow many months.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.1								0	1.3	0	.80
2	1.1								0	1.3	0	.80
3	1.1								0	1.3	0	.80
4	2.0								0	1.3	0	.80
5	2.7								0	1.3	0	.80
6	2.7								0	1.3	0	.80
7	2.7								0	.84	0	.80
8	2.7								0	.52	0	.80
9	2.7								0	.52	0	.80
10	2.7								0	.52	0	.80
11	2.7								0	.52	.58	.80
12	2.7								0	.52	.96	.80
13	1.8								0	.52	.96	.80
14	0								0	.10	.96	.80
15	0								0	0	.96	.80
16	0								0	0	.96	.80
17	0								0	0	.96	.80
18	0								0	0	.96	.80
19	0								0	0	.96	.80
20	0								0	0	.96	.80
21	0								.22	0	.89	.80
22	0								.40	0	.80	.30
23	0								.40	0	.80	0
24	0								.40	0	.80	0
25	0								.28	0	.80	0
26	0								.31	0	.80	0
27	0								.36	0	.80	0
28	0								.92	0	.80	0
29	0								1.3	0	.80	0
30	0								1.3	0	.80	0
31	0	---			---		---		---	0	.80	---
TOTAL	28.7	0	0	0	0	0	0	0	5.89	11.86	18.11	17.10
MEAN	.93	0	0	0	0	0	0	0	.20	.38	.58	.57
MAX	2.7	0	0	0	0	0	0	0	1.3	1.3	.96	.80
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	57	0	0	0	0	0	0	0	12	24	36	34
CAL YR 1976	TOTAL 271.30		MEAN .74	MAX 3.6	MIN 0	AC-FT 538						
WTR YR 1977	TOTAL 81.66		MEAN .22	MAX 2.7	MIN 0	AC-FT 162						

## SANTA YNEZ RIVER BASIN

11123500 SANTA YNEZ RIVER BELOW LOS LAURELES CANYON, NEAR SANTA YNEZ, CA

LOCATION.--Lat 34°32'37", long 119°51'50", in San Marcos Grant, Santa Barbara County, on left bank 0.3 mi (0.5 km) downstream from Los Laureles Canyon Creek, and 13.3 mi (21.4 km) east of Santa Ynez.

DRAINAGE AREA.--277 mi<sup>2</sup> (717 km<sup>2</sup>).

PERIOD OF RECORD.--April 1947 to current year. Monthly discharge only for some periods, published in WSP 1315-B.

GAGE.--Water-stage recorder. Datum of gage is 787.8 ft (240.12 m) above mean sea level.

REMARKS.--Records fair. Flow regulated by Jameson Lake and Gibraltar Reservoir (stations 11121000, 11122000). Water diverted out of basin from these reservoirs to cities of Montecito and Santa Barbara for municipal supply. Low flow affected by intermittent pumping for irrigation from infiltration gallery in riverbed at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 67,500 ft<sup>3</sup>/s (1,910 m<sup>3</sup>/s) Jan. 25, 1969, gage height, 18.88 ft (5.755 m), from rating curve extended above 11,600 ft<sup>3</sup>/s (329 m<sup>3</sup>/s) on basis of maximum flow for station below Gibraltar Dam plus tributary inflow; no flow for several months in each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 54 ft<sup>3</sup>/s (1.53 m<sup>3</sup>/s) May 9, gage height, 5.23 ft (1.594 m); no flow for several months.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1				0	1.6	.88	1.4	0	.54			
2				5.5	1.6	.86	1.1	0	.47			
3				9.1	1.7	.82	1.0	0	.39			
4				3.7	1.7	.76	1.0	0	.15			
5				1.6	1.7	.70	1.0	0	.04			
6				6.5	1.7	.70	.98	0	0			
7				23	1.7	.68	.86	0	0			
8				17	1.7	.65	.72	.04	0			
9				9.2	1.7	.58	.58	33	0			
10				6.1	1.6	.49	.49	34	0			
11				4.7	1.5	.47	.42	18	0			
12				3.8	1.4	.45	.34	12	0			
13				3.2	1.4	.41	.31	8.9	0			
14				2.6	1.4	.21	.28	6.8	0			
15				2.3	1.3	0	.22	5.7	0			
16				2.1	1.2	1.0	.18	4.6	0			
17				1.9	1.2	4.1	.17	3.8	0			
18				1.9	1.1	2.4	.14	3.2	0			
19				1.8	1.0	2.0	.11	2.8	0			
20				1.8	1.0	1.7	.04	2.0	0			
21				1.9	1.0	1.5	0	1.8	0			
22				1.8	.98	1.5	0	1.8	0			
23				1.7	.96	1.4	0	1.8	0			
24				1.7	.91	1.3	0	1.7	0			
25				1.7	.90	1.9	0	1.6	0			
26				1.5	.86	2.1	0	1.1	0			
27				1.5	.82	1.8	0	1.1	0			
28				1.5	.80	1.6	0	1.1	0			
29				1.5	---	1.4	0	1.1	0			
30				1.6	---	1.4	0	.66	0			
31		---		1.6	---	1.4	---	.53	---			---
TOTAL	0	0	0	125.8	36.43	37.16	11.34	149.13	1.59	0	0	0
MEAN	0	0	0	4.06	1.30	1.20	.38	4.81	.053	0	0	0
MAX	0	0	0	23	1.7	4.1	1.4	34	.54	0	0	0
MIN	0	0	0	0	.80	0	0	0	0	0	0	0
AC-FT	0	0	0	250	72	74	22	296	3.2	0	0	0
CAL YR 1976	TOTAL	1090.60	MEAN	2.98	MAX	288	MIN	0	AC-FT	2160		
WTR YR 1977	TOTAL	361.45	MEAN	.99	MAX	34	MIN	0	AC-FT	717		

11124500 SANTA CRUZ CREEK NEAR SANTA YNEZ, CA

LOCATION.--Lat 34°35'48", long 119°54'28", in San Marcos Grant, Santa Barbara County, on right bank 0.6 mi (1.0 km) downstream from Pine Canyon, and 9.9 mi (15.9 km) east of Santa Ynez.

DRAINAGE AREA.--74.0 mi<sup>2</sup> (191.7 km<sup>2</sup>).

PERIOD OF RECORD.--October 1941 to current year. Monthly discharge only for some periods, published in WSP 1315-B.

GAGE.--Water-stage recorder. Datum of gage is 783.38 ft (238.774 m) above mean sea level. See WSP 1735 for history of changes prior to Sept. 27, 1952. Sept. 27, 1952, to June 24, 1969, at datum 3.25 ft (0.991 m) higher.

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

AVERAGE DISCHARGE.--36 years, 15.9 ft<sup>3</sup>/s (0.450 m<sup>3</sup>/s), 11,520 acre-ft/yr (14.2 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,050 ft<sup>3</sup>/s (200 m<sup>3</sup>/s) Feb. 24, 1969, gage height, 14.45 ft (4.404 m), from floodmark, present datum, from rating curve extended above 2,500 ft<sup>3</sup>/s (70.8 m<sup>3</sup>/s) on basis of slope-area measurement at gage height 14.16 ft (4.316 m); no flow at times since 1953.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 71 ft<sup>3</sup>/s (2.01 m<sup>3</sup>/s) May 9, gage height, 8.14 ft (2.481 m), no peaks above base of 100 ft<sup>3</sup>/s (2.83 m<sup>3</sup>/s); no flow for several months.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1				0	.68	.83	1.1	.32	.42	.02		
2				0	.83	.78	1.1	.32	.32	.01		
3				21	.68	.72	.99	.32	.32	.01		
4				3.6	.68	.59	.91	.32	.29	.01		
5				1.2	.83	.63	.88	.32	.26	0		
6				6.8	.83	.52	.68	.32	.24	0		
7				13	.68	.46	.60	.42	.21	0		
8				5.0	.83	.42	.59	1.7	.18	0		
9				2.0	.83	.33	.66	.45	.17	0		
10				1.1	.83	.34	.55	.22	.16	0		
11				.68	.68	.28	.52	13	.15	0		
12				.55	.68	.29	.52	9.2	.13	0		
13				.32	.68	.34	.52	9.0	.12	0		
14				.24	.68	.34	.51	9.0	.11	0		
15				.17	.55	.47	.36	9.0	.10	0		
16				.12	.55	2.9	.34	8.2	.09	0		
17				.08	.55	4.2	.35	5.1	.09	0		
18				.12	.68	1.9	.34	3.7	.08	0		
19				.12	.55	1.4	.31	3.2	.07	0		
20				.17	.68	1.2	.23	2.6	.07	0		
21				.42	.68	.99	.22	1.9	.06	0		
22				.42	.83	.89	.23	1.9	.06	0		
23				.55	1.0	.83	.22	2.0	.05	0		
24				.55	1.2	1.0	.17	2.0	.05	0		
25				.55	1.0	2.6	.17	1.6	.05	0		
26				.55	.97	2.2	.17	1.5	.04	0		
27				.68	.89	1.6	.17	1.2	.04	0		
28				.83	.89	1.4	.23	1.2	.04	0		
29				.83	---	1.3	.24	1.0	.03	0		
30				.68	---	1.2	.32	.83	.02	0		
31		---		.68	---	1.3	---	.55	---	0		---
TOTAL	0	0	0	63.01	21.44	34.25	14.20	158.72	4.02	.05	0	0
MEAN	0	0	0	2.03	.77	1.10	.47	5.12	.13	.002	0	0
MAX	0	0	0	21	1.2	4.2	1.1	45	.42	.02	0	0
MIN	0	0	0	0	.55	.28	.17	.32	.02	0	0	0
AC-FT	0	0	0	125	43	68	28	315	8.0	.10	0	0
CAL YR 1976	TOTAL 499.99		MEAN 1.37	MAX 100	MIN 0	AC-FT 992						
WTR YR 1977	TOTAL 295.69		MEAN .81	MAX 45	MIN 0	AC-FT 587						

## SANTA YNEZ RIVER BASIN

11125500 LAKE CACHUMA NEAR SANTA YNEZ, CA

LOCATION.--Lat 34°34'57", long 119°58'47", in Lomas de la Purification Grant, Santa Barbara County, at Bradbury Dam (revised) on Santa Ynez River, on upstream face near left end of dam, 6.1 mi (9.8 km) east of Santa Ynez.

DRAINAGE AREA.--417 mi<sup>2</sup> (1,080 km<sup>2</sup>).

PERIOD OF RECORD.--November 1952 to current year. Prior to October 1960, published as "at Cachuma Reservoir near Santa Ynez."

GAGE.--Water-stage recorder. Datum of gage is at mean sea level (Bureau of Reclamation bench mark). Prior to Oct. 1, 1965, nonrecording gage.

REMARKS.--Reservoir is formed by earthfill dam. Storage began November 1952. Capacity table is based on surveys made in January 1953. Dead storage below outlet gage to river, elevation, 600 ft (182.9 m), 3,114 acre-ft (3.84 hm<sup>3</sup>), included in contents. Capacity below sill of inlet to Tecolote tunnel, elevation, 660 ft (201.2 m), 32,514 acre-ft (40.1 hm<sup>3</sup>), below spillway level, elevation, 720 ft (219.5 m), 125,292 acre-ft (154 hm<sup>3</sup>); below top of 4 radial gates, elevation, 750 ft (228.6 m), 204,874 acre-ft (253 hm<sup>3</sup>). Water is released from outlet to Santa Ynez River to satisfy downstream water rights. Water diverted to Tecolote tunnel for use by city of Santa Barbara and nearby communities, to Santa Ynez River Water Conservation District, and to Cachuma recreation area.

COOPERATION.--Reservoir elevation, contents, and diversion figures were furnished by Bureau of Reclamation.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 221,100 acre-ft (273 hm<sup>3</sup>) Feb. 24, 1969, elevation, 755.11 ft (230.158 m); minimum since initial filling in April 1958, 112,100 acre-ft (138 hm<sup>3</sup>) Sept. 30, 1977, elevation, 713.90 ft (217.597 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 144,800 acre-ft (179 hm<sup>3</sup>) Oct. 2, elevation, 728.27 ft (221.977 m); minimum, 112,100 acre-ft (138 hm<sup>3</sup>) Sept. 30, elevation, 713.90 ft (217.597 m).

## MONTHEND ELEVATION AND CONTENTS, AT 0800, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)	Total diversions (acre-feet)
Sept. 30.....	728.43	145200	--	--
Oct. 31.....	727.74	143500	-1700	652
Nov. 30.....	726.95	141600	-1900	1440
Dec. 31.....	725.98	139200	-2400	1760
CAL YR 1976.....	--	--	-34900	27400
Jan. 31.....	725.91	139000	-200	815
Feb. 28.....	725.10	137100	-1900	1610
Mar. 31.....	724.12	134800	-2300	2010
Apr. 30.....	722.62	131300	-3500	2810
May 31.....	721.97	129800	-1500	1600
June 30.....	720.45	126300	-3500	2370
July 31.....	717.99	120800	-5500	3270
Aug. 31.....	715.56	115600	-5200	2630
Sept. 30.....	713.90	112100	-3500	2440
WTR YR 1977.....	--	--	-33100	23410

## 11126500 SANTA AGUEDA CREEK NEAR SANTA YNEZ, CA

LOCATION(REVISED).--Lat 34°35'42", long 120°01'43", in Canada de los Pinos Grant, Santa Barbara County, on right bank 500 feet (152 m) upstream from bridge on Armour Ranch Road, 0.6 mi (1.0 km) upstream from mouth, and 3.5 mi (5.6 km) southeast of Santa Ynez.

DRAINAGE AREA.--55.8 mi<sup>2</sup> (144.5 km<sup>2</sup>).

PERIOD OF RECORD.--October 1940 to September 1971, October 1976 to September 1977. Monthly discharge only for January 1941 and yearly estimate for water year 1941 (incomplete), published in WSP 1315-B.

GAGE.--Water-stage recorder. Altitude of gage is 530 ft (162 m), from topographic map. Prior to Oct. 1, 1976, at site 500 ft (152 m) downstream at different datum.

REMARKS.--Records poor. Diversions for irrigation and pumping from wells above station.

AVERAGE DISCHARGE.--32 years, 3.60 ft<sup>3</sup>/s (0.102 m<sup>3</sup>/s), 2,610 acre-ft/yr (3.22 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,300 ft<sup>3</sup>/s (207 m<sup>3</sup>/s) Feb. 24, 1969, gage height, 6.65 ft (2.027 m) site and datum then in use; no flow at times in most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 14 ft<sup>3</sup>/s (0.40 m<sup>3</sup>/s) Jan. 6, gage height, 2.48 ft (0.756 m), no peak above base of 50 ft<sup>3</sup>/s (1.42 m<sup>3</sup>/s); no flow most of year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1				0								
2				0								
3				0								
4				0								
5				0								
6				3.0								
7				1.1								
8				0								
9				0								
10				0								
11				0								
12				0								
13				0								
14				0								
15				0								
16				0								
17				0								
18				0								
19				0								
20				0								
21				0								
22				0								
23				0								
24				0								
25				0								
26				0								
27				0								
28				0								
29				0	---							
30				0	---							
31		---		0	---		---		---			---
TOTAL	0	0	0	4.1	0	0	0	0	0	0	0	0
MEAN	0	0	0	.13	0	0	0	0	0	0	0	0
MAX	0	0	0	3.0	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	0	8.1	0	0	0	0	0	0	0	0

WTR YR 1977 TOTAL 4.1 MEAN .011 MAX 3.0 MIN 0 AC-FT 8.1

## SANTA YNEZ RIVER BASIN

11128250 ALAMO PINTADO CREEK NEAR SOLVANG, CA

LOCATION.--Lat 34°37'06", long 120°07'11", in SE¼NW¼NW¼ sec.11, T.6 N., R.31 W., Santa Barbara County, on right bank at downstream side of bridge on Alamo Pintado Road, 1.5 mi (2.4 km) northeast of Solvang.

DRAINAGE AREA.--29.4 mi<sup>2</sup> (76.1 km<sup>2</sup>).

PERIOD OF RECORD.--October 1970 to current year. Records prior to October 1970 in files of Santa Barbara County Flood Control District.

GAGE.--Water-stage recorder. Datum of gage is 540.49 ft (164.741 m) above mean sea level (Santa Barbara County bench mark).

REMARKS.--Records poor. No regulation above station. Pumping from wells along stream for irrigation.

AVERAGE DISCHARGE.--7 years, 0.070 ft<sup>3</sup>/s (0.002 m<sup>3</sup>/s), 51 acre-ft/yr (62,900 m<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 466 ft<sup>3</sup>/s (13.2 m<sup>3</sup>/s) Jan. 18, 1973, gage height, 6.00 ft (1.829 m), from floodmark, from rating curve extended above 3.2 ft<sup>3</sup>/s (0.091 m<sup>3</sup>/s) on basis of slope-area measurement of peak flow; no flow most of each year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Jan. 25, 1969, reached a stage of 10.32 ft (3.146 m), from information by Santa Barbara County Flood Control District.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7.0 ft<sup>3</sup>/s (0.20 m<sup>3</sup>/s) Jan. 2, gage height, 3.48 ft (1.061 m), no peak above base of 10 ft<sup>3</sup>/s (0.28 m<sup>3</sup>/s); no flow most of year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.30	0	0	0		0						
2	0	0	0	.85		0						
3	0	0	0	.01		0						
4	0	0	0	0		0						
5	0	0	0	.25		0						
6	0	0	0	.98		0						
7	0	0	0	.03		0						
8	0	0	0	0		0						
9	0	0	0	0		0						
10	0	0	0	0		0						
11	0	.08	0	0		0						
12	0	0	0	0		0						
13	0	0	0	0		0						
14	0	0	0	0		0						
15	0	0	0	0		0						
16	0	0	0	0		.32						
17	0	0	0	0		0						
18	0	0	0	0		0						
19	0	0	0	0		0						
20	0	0	0	0		0						
21	0	0	0	0		0						
22	0	0	0	0		0						
23	0	0	0	0		0						
24	0	0	0	0		0						
25	0	0	0	0		0						
26	0	0	0	0		0						
27	0	0	0	0		0						
28	0	0	0	0		0						
29	0	0	0	0	---	0						
30	0	0	.20	0	---	0						
31	0	---	.08	0	---	0	---		---			---
TOTAL	.30	.08	.28	2.12	0	.32	0	0	0	0	0	0
MEAN	.010	.003	.009	.068	0	.010	0	0	0	0	0	0
MAX	.30	.08	.20	.98	0	.32	0	0	0	0	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	.6	.2	.6	4.2	0	.6	0	0	0	0	0	0
CAL YR 1976	TOTAL 2.45	MEAN .0070	MAX .72	MIN 0	AC-FT 4.9							
WTR YR 1977	TOTAL 3.10	MEAN .0090	MAX .98	MIN 0	AC-FT 6.1							

## 11128300 ALISAL RESERVOIR NEAR SOLVANG, CA

LOCATION.--Lat 34°32'56", long 120°07'45", in SE¼NE¼NW¼ sec.4, T.5 N., R.31 W., Santa Barbara County, in cove, on right bank 0.4 mi (0.6 km) upstream from reservoir spillway, and 3 mi (5 km) south of Solvang.

DRAINAGE AREA.--7.83 mi<sup>2</sup> (20.28 km<sup>2</sup>).

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

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

REMARKS.--Lake is formed by earthfill dam. Storage began Dec. 19, 1970. Usable capacity, 2,260 acre-ft (2.79 hm<sup>3</sup>) between bottom of outlet gate at elevation 555.70 ft (169.377 m) and crest of spillway at elevation 599.88 ft (182.843 m). Dead storage, 110 acre-ft (136,000 m<sup>3</sup>). Inflow must total 150 acre-ft (185,000 m<sup>3</sup>) during any one month between November and June in order to store flows for that water year.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 2,650 acre-ft (3.27 hm<sup>3</sup>) Feb. 27, 1973, elevation, 602.95 ft (183.779 m); minimum, 748 acre-ft (922,000 m<sup>3</sup>) Nov. 8-10, 1972, elevation, 577.15 ft (175.915 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 2,370 acre-ft (2.92 hm<sup>3</sup>) May 9, elevation, 599.92 ft (182.856 m); minimum, 2,180 acre-ft (2.69 hm<sup>3</sup>) Sept. 30, elevation, 597.73 ft (182.188 m).

## MONTHEND ELEVATION AND CONTENTS, AT 1800, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30.....	598.42	2240	--
Oct. 31.....	598.43	2240	0
Nov. 30.....	598.33	2230	-10
Dec. 31.....	598.30	2230	0
CAL YR 1976.....	--	--	-20
Jan. 31.....	599.64	2350	+120
Feb. 28.....	599.69	2350	0
Mar. 31.....	599.87	2370	+20
Apr. 30.....	599.66	2350	-20
May 31.....	599.76	2360	+10
June 30.....	599.36	2320	-40
July 31.....	598.76	2270	-50
Aug. 31.....	598.20	2220	-50
Sept. 30.....	597.73	2180	-40
WTR YR 1977.....	--	--	-60

## 11128500 SANTA YNEZ RIVER AT SOLVANG, CA

LOCATION.--Lat 34°35'06", long 120°08'37", in San Carlos de Jonata Grant, Santa Barbara County, near left bank on downstream end of pier of Alisal Road bridge (revised), 25 ft (8 m) downstream from Alisal Creek, 0.8 mi (1.3 km) southwest of Solvang, and 10 mi (16 km) downstream from Lake Cachuma.

DRAINAGE AREA.--579 mi<sup>2</sup> (1,500 km<sup>2</sup>).

PERIOD OF RECORD.--October 1928 to November 1936, June 1937 to November 1940 (irrigation seasons only), October 1946 to current year.

GAGE.--Water-stage recorder. Datum of gage is 362.43 ft (110.469 m) above mean sea level. Various datums used during period of record. July 29 to Sept. 30, 1953, auxiliary water-stage recorder 750 ft (229 m) upstream at different datum. Oct. 1, 1953, to Sept. 30, 1968, water-stage recorder at datum 2.00 ft (0.610 m) higher.

REMARKS.--Records poor. Flow regulated by Jameson Lake, Gibraltar Reservoir, and since November 1952 by Lake Cachuma (stations 11121000, 11122000, 11125500). Water diverted out of basin from Jameson Lake, Gibraltar Reservoir, and Lake Cachuma to cities of Montecito, Santa Barbara, and Goleta for municipal supply. Water for irrigation pumped from wells along banks of river in valley upstream.

EXTREMES FOR PERIOD OF RECORD (1928-36 AND SINCE 1946).--Maximum discharge, 82,000 ft<sup>3</sup>/s (2,320 m<sup>3</sup>/s), estimated, Jan. 25, 1969, gage height, 17.1 ft (5.21 m), from floodmark; no flow for several months in many years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 203 ft<sup>3</sup>/s (5.75 m<sup>3</sup>/s) Oct. 1, gage height, 5.07 ft (1.545 m); no flow for several months.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	136	1.8	1.2	0	2.3	0	.31					
2	24	1.8	.98	.67	2.3	0	.36					
3	11	1.8	.96	3.7	2.3	0	.33					
4	7.2	1.7	1.0	3.7	2.3	0	.19					
5	4.7	1.7	1.2	3.5	2.3	0	.06					
6	4.4	1.7	1.1	15	2.2	0	.01					
7	4.1	1.7	1.0	17	2.2	0	0					
8	3.7	1.7	.75	8.9	2.2	0	0					
9	3.5	1.7	.74	6.8	2.2	0	0					
10	3.4	1.7	.93	5.6	2.2	0	0					
11	3.3	1.9	.77	4.9	2.2	0	0					
12	3.2	3.0	.97	4.5	2.2	0	0					
13	3.1	3.3	.69	4.1	2.1	0	0					
14	3.0	3.3	.72	3.8	2.1	0	0					
15	2.9	3.3	.70	3.5	2.1	0	0					
16	2.8	2.8	.56	3.2	2.1	.07	0					
17	2.7	2.3	.41	3.0	2.1	.29	0					
18	2.6	2.2	.07	2.8	2.1	.23	0					
19	2.3	1.9	.03	2.7	2.0	.15	0					
20	2.6	1.7	0	2.7	1.7	.07	0					
21	2.6	1.8	0	2.6	1.7	0	0					
22	2.6	1.6	0	2.5	1.7	0	0					
23	2.6	1.6	0	2.5	1.2	0	0					
24	2.4	1.4	0	2.4	1.1	0	0					
25	2.3	1.5	0	2.4	.82	.21	0					
26	2.3	1.6	0	2.3	.09	.15	0					
27	2.1	1.5	0	2.4	0	.20	0					
28	1.9	1.1	0	2.4	0	.26	0					
29	1.8	1.4	0	2.3	---	.13	0					
30	1.8	1.3	0	2.3	---	.09	0					
31	1.8	---	0	2.3	---	.32	---		---			---
TOTAL	254.7	57.8	14.78	126.47	49.81	2.17	1.26	0	0	0	0	0
MEAN	8.22	1.93	.48	4.08	1.78	.070	.042	0	0	0	0	0
MAX	136	3.3	1.2	17	2.3	.32	.36	0	0	0	0	0
MIN	1.8	1.1	0	0	0	0	0	0	0	0	0	0
AC-FT	505	115	29	251	99	4.3	2.5	0	0	0	0	0
CAL YR 1976 TOTAL	1492.74		MEAN 4.08		MAX 243	MIN 0	AC-FT 2960					
WTR YR 1977 TOTAL	506.99		MEAN 1.39		MAX 136	MIN 0	AC-FT 1010					



11129800 ZACA CREEK NEAR BUELLTON, CA

LOCATION.--Lat 34°38'55", long 120°11'00", in San Carlos de Jonata Grant, Santa Barbara County, on upstream end of left pier of bridge on frontage road, 0.9 mi (1.4 km) upstream from Dry Creek, 2.4 mi (3.9 km) north of Buellton, and 4.0 mi (6.4 km) upstream from mouth.

DRAINAGE AREA.--32.8 mi<sup>2</sup> (85.0 km<sup>2</sup>).

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

GAGE.--Water-stage recorder. Datum of gage is 471.54 ft (143.725 m) above mean sea level.

REMARKS.--Records poor. Some pumping from wells along stream for irrigation above station.

AVERAGE DISCHARGE.--14 years, 0.82 ft<sup>3</sup>/s (0.023 m<sup>3</sup>/s), 594 acre-ft/yr (732,000 m<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,390 ft<sup>3</sup>/s (39.4 m<sup>3</sup>/s) Feb. 24, 1969, gage height, 9.20 ft (2.804 m); no flow most of each year.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 10 ft<sup>3</sup>/s (0.28 m<sup>3</sup>/s) and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s) (*14)	Discharge (m <sup>3</sup> /s)	Gage height (ft)	Gage height (m)
Jan. 6	1545		0.40	2.52	0.768
May 9	0100	13	0.37	2.49	0.759

Minimum daily discharge, no flow most of year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.06	0	0	0		0		0				
2	0	0	0	.15		0		0				
3	0	0	0	0		0		0				
4	0	0	0	0		0		0				
5	0	0	0	.22		0		0				
6	0	0	0	3.2		0		0				
7	0	0	0	.28		0		0				
8	0	0	0	.01		0		.28				
9	0	0	0	0		0		.86				
10	0	0	0	0		0		.05				
11	0	.03	0	0		0		0				
12	0	0	0	0		0		0				
13	0	0	0	0		0		0				
14	0	0	0	0		0		0				
15	0	0	0	0		0		0				
16	0	0	0	0		.11		0				
17	0	0	0	0		0		0				
18	0	0	0	0		0		0				
19	0	0	0	0		0		0				
20	0	0	0	0		0		0				
21	0	0	0	0		0		0				
22	0	0	0	0		0		0				
23	0	0	0	0		0		0				
24	0	0	0	0		0		0				
25	0	0	0	0		0		0				
26	0	0	0	0		0		0				
27	0	0	0	0		0		0				
28	0	0	0	0		0		0				
29	0	0	0	0	---	0		0				
30	0	0	.09	0	---	0		0				
31	0	---	.01	0	---	0	---	0	---			---
TOTAL	.06	.03	.10	3.86	0	.11	0	1.19	0	0	0	0
MEAN	.002	.001	.003	.12	0	.004	0	.038	0	0	0	0
MAX	.06	.03	.09	3.2	0	.11	0	.86	0	0	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	.1	.06	.2	7.7	0	.2	0	2.4	0	0	0	0

CAL YR 1976 TOTAL 12.01 MEAN .033 MAX 7.2 MIN 0 AC-FT 24  
WTR YR 1977 TOTAL 5.35 MEAN .015 MAX 3.2 MIN 0 AC-FT 11

## 11132500 SALSIPUEDES CREEK NEAR LOMPOC, CA

LOCATION.--Lat 34°35'19", long 120°24'27", in W½ sec.24, T.6 N., R.34 W., Santa Barbara County, on right bank at bridge on Jalama Road, 0.4 mi (0.6 km) downstream from El Jaro Creek, and 4.4 mi (7.1 km) southeast of Lompoc.

DRAINAGE AREA.--47.1 mi<sup>2</sup> (122.0 km<sup>2</sup>).

PERIOD OF RECORD.--January 1941 to current year.

GAGE.--Water-stage recorder and concrete low-water control. Altitude of gage is 220 ft (67 m), from topographic map.

REMARKS.--Records good. No regulation above station. Small diversions for irrigation above station.

AVERAGE DISCHARGE.--36 years, 8.37 ft<sup>3</sup>/s (0.237 m<sup>3</sup>/s), 6,060 acre-ft/yr (7.47 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,400 ft<sup>3</sup>/s (323 m<sup>3</sup>/s) Mar. 15, 1952, gage height, 20.8 ft (6.34 m); no flow at times in some years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 74 ft<sup>3</sup>/s (2.10 m<sup>3</sup>/s) May 9, gage height, 1.94 ft (0.591 m), no peak above base of 700 ft<sup>3</sup>/s (19.8 m<sup>3</sup>/s); minimum daily, 0.02 ft<sup>3</sup>/s (<0.001 m<sup>3</sup>/s) July 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.3	.41	.92	2.4	1.3	1.1	.87	.35	.20	.06	.05	.12
2	1.3	.41	.90	6.3	1.3	1.1	.87	.37	.19	.06	.06	.13
3	.90	.41	.84	9.4	1.3	1.1	.74	.32	.23	.06	.06	.14
4	.90	.41	.86	2.0	1.3	1.1	.74	.35	.16	.06	.06	.13
5	.74	.41	.86	1.7	1.3	1.1	.74	.34	.16	.06	.06	.09
6	.57	.57	.80	9.6	1.2	1.1	.75	.33	.19	.06	.05	.08
7	.57	.57	.78	5.3	1.1	1.2	.71	.37	.16	.06	.05	.08
8	.57	.41	.70	2.6	1.1	1.3	.66	12	.28	.06	.05	.08
9	.57	.28	.81	1.7	1.1	1.3	.53	19	.28	.05	.05	.07
10	.57	.41	.94	1.5	1.1	1.2	.45	2.6	.41	.05	.06	.06
11	.57	1.4	.88	1.5	1.1	1.2	.41	1.1	.41	.05	.06	.06
12	.57	1.2	.86	1.7	1.1	1.1	.41	1.1	.28	.04	.06	.06
13	.57	1.2	.75	1.7	1.1	1.3	.41	1.1	.31	.05	.06	.06
14	.57	1.1	.76	1.7	1.0	1.2	.40	.82	.20	.05	.06	.06
15	.57	1.1	.65	1.5	1.1	1.3	.41	.67	.19	.05	.06	.06
16	.41	.90	.58	1.5	1.0	1.2	.40	.57	.18	.05	.05	.06
17	.41	.87	.72	1.5	.89	4.2	.41	.49	.17	.04	.04	.05
18	.28	.86	.79	1.5	.92	2.3	.40	.47	.18	.04	.04	.05
19	.41	.79	.74	1.6	1.0	2.0	.38	.45	.22	.06	.05	.05
20	.41	.74	.78	1.7	1.0	1.6	.36	.41	.27	.03	.05	.05
21	.41	.86	.76	1.7	1.1	1.5	.35	.40	.22	.02	.05	.05
22	.41	.86	1.1	1.6	1.1	1.3	.38	.46	.15	.03	.05	.05
23	.41	.74	.96	1.5	1.2	1.1	.34	.47	.08	.03	.05	.05
24	.41	.73	.90	1.5	1.2	1.1	.28	.51	.08	.04	.05	.05
25	.41	.70	.79	1.5	1.1	1.3	.28	.38	.08	.05	.05	.05
26	.41	1.0	.70	1.5	1.1	1.1	.30	.37	.08	.05	.04	.05
27	.41	.95	.74	1.3	1.1	1.0	.33	.37	.08	.05	.06	.06
28	.41	.99	.90	1.5	1.1	.90	.28	.33	.08	.05	.06	.06
29	.41	.94	.90	1.5	---	.90	.27	.28	.08	.05	.07	.06
30	.41	.91	2.5	1.4	---	.89	.32	.24	.06	.05	.07	.05
31	.41	---	4.2	1.3	---	.88	---	.16	---	.05	.08	---
TOTAL	17.27	23.13	30.37	74.7	31.31	51.77	14.18	47.18	5.66	1.51	1.71	2.07
MEAN	.56	.77	.98	2.41	1.12	1.67	.47	1.52	.19	.049	.055	.069
MAX	1.3	1.4	4.2	9.6	1.3	12	.87	19	.41	.06	.08	.14
MIN	.28	.28	.58	1.3	.89	.88	.27	.16	.06	.02	.04	.05
AC-FT	34	46	60	148	62	103	28	94	11	3.0	3.4	4.1

CAL YR 1976 TOTAL 680.87 MEAN 1.86 MAX 124 MIN .05 AC-FT 1350  
WTR YR 1977 TOTAL 300.86 MEAN .82 MAX 19 MIN .02 AC-FT 597

## 11133000 SANTA YNEZ RIVER AT NARROWS, NEAR LOMPOC, CA

LOCATION.--Lat 34°38'16", long 120°25'32", in Canada de Salsipuedes Grant, Santa Barbara County, on left bank 0.5 mi (0.8 km) upstream from State Highway 246, 1.9 mi (3.1 km) east of Lompoc, 1.9 mi (3.1 km) downstream from Salsipuedes Creek, and 12.5 mi (20.1 km) downstream from Lake Cachuma.

DRAINAGE AREA.--789 mi<sup>2</sup> (2,040 km<sup>2</sup>).

PERIOD OF RECORD.--May 1947 to November 1951 (irrigation seasons only). May 1952 to September 1963, October 1964 to current year. Records equivalent, excepting low-flow periods, to those published as "near Lompoc" (station 11133500), November to December 1906, October 1907 to September 1918, May 1925 to September 1960.

GAGE.--Two water-stage recorders. Altitude of main gage is 90 ft (27 m), from topographic map. See WSP 1715 for history of changes prior to Oct. 1, 1961. Since Oct. 1, 1961, at various sites and datums within 0.1 mi (0.2 km) of present site. Supplementary gage, used for high-water periods, at site 0.5 mi (0.8 km) downstream at datum 79.25 ft (24.155 m) above mean sea level.

REMARKS.--Records fair. Flow regulated by Jameson Lake, Gibraltar Reservoir, and since November 1952 by Lake Cachuma (stations 11121000, 11122000, 11125500). Water diverted out of Jameson Lake, Gibraltar Reservoir, and Lake Cachuma to cities of Montecito, Santa Barbara, and Goleta for municipal supply. Water pumped from wells along banks of river for irrigation in valley upstream.

EXTREMES FOR PERIOD OF RECORD (1952-63 AND SINCE 1964).--Maximum discharge, 80,000 ft<sup>3</sup>/s (2,270 m<sup>3</sup>/s) Jan. 25, 1969, gage height, 24.20 ft (7.376 m), from supplementary gage; no flow at times in each year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Jan. 9, 1907, 120,000 ft<sup>3</sup>/s (3,400 m<sup>3</sup>/s), gage height, 22.0 ft (6.71 m) site and datum then in use, from mean-depth study.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7.6 ft<sup>3</sup>/s (0.22 m<sup>3</sup>/s) May 9, gage height, 5.57 ft (1.698 m); no flow many months.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1				0	1.9	1.6	1.1	0				
2				0	2.0	1.6	1.1	0				
3				0	2.1	1.4	1.0	0				
4				0	2.1	1.4	.99	0				
5				0	2.1	1.3	.95	0				
6				0	2.2	1.3	.90	0				
7				0	2.2	1.3	.85	0				
8				0	2.2	1.3	.80	0				
9				0	2.3	1.3	.76	3.9				
10				0	2.2	1.2	.73	2.1				
11				0	2.1	1.2	.70	1.2				
12				0	2.1	1.2	.67	1.0				
13				0	2.1	1.2	.66	.91				
14				0	2.3	1.1	.63	.76				
15				0	2.2	1.1	.58	.65				
16				0	2.1	2.1	.54	.58				
17				0	2.0	2.6	.50	.48				
18				0	2.0	1.8	.43	.37				
19				0	1.9	1.5	.33	.25				
20				0	1.8	1.4	.14	.03				
21				0	1.9	1.4	.04	0				
22				0	1.8	1.3	.01	0				
23				.01	1.8	1.3	0	0				
24				.93	1.7	1.3	0	0				
25				1.4	1.6	1.2	0	0				
26				1.5	1.6	1.2	0	0				
27				1.6	1.6	1.2	0	0				
28				1.6	1.5	1.1	0	0				
29				1.7	---	1.1	0	0				
30				1.8	---	1.1	0	0				
31		---		1.8	---	1.1	---	0	---			---
TOTAL	0	0	0	12.34	55.4	42.2	14.41	12.23	0	0	0	0
MEAN	0	0	0	.40	1.98	1.36	.48	.39	0	0	0	0
MAX	0	0	0	1.8	2.3	2.6	1.1	3.9	0	0	0	0
MIN	0	0	0	0	1.5	1.1	0	0	0	0	0	0
AC-FT	0	0	0	24	110	84	29	24	0	0	0	0
CAL YR 1976	TOTAL	1894.04	MEAN 5.18	MAX	390	MIN 0	AC-FT 3760					
WTR YR 1977	TOTAL	136.58	MEAN .37	MAX	3.9	MIN 0	AC-FT 271					



## 11135000 SANTA YNEZ RIVER AT PINE CANYON, NEAR LOMPOC, CA

LOCATION.--Lat 34°40'20", long 120°29'30", in Lompoc Grant, Santa Barbara County, on right bank at Floradale Avenue bridge, 2.1 mi (3.4 km) upstream from Santa Lucia Creek, 3 mi (5 km) northwest of Lompoc, and 7 mi (11 km) upstream from mouth at Pacific Ocean.

DRAINAGE AREA.--844 mi<sup>2</sup> (2,186 km<sup>2</sup>).

PERIOD OF RECORD.--May 1941 to October 1946, August 1964 to current year. Monthly discharge only for some periods, published in WSP 1315-B.

GAGE.--Water-stage recorder. Datum of gage is 40.78 ft (12.430 m) above mean sea level. Prior to Aug. 24, 1964, at different datum. Aug. 24, 1964, to Aug. 20, 1970, at datum 0.91 ft (0.277 m) lower.

REMARKS.--Records fair. Flow regulated by Jameson Lake, Gibraltar Reservoir, and Lake Cachuma (stations 11121000, 11122000, 11125500). Water diverted out of basin from Jameson Lake, Gibraltar Reservoir, and Lake Cachuma to cities of Montecito, Santa Barbara, and Goleta for municipal supply. Water pumped from wells along bank for irrigation in valley upstream. Effluent from city of Lompoc contributes to low flow most months.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 78,000 ft<sup>3</sup>/s (2,210 m<sup>3</sup>/s), estimated, Jan. 25, 1969, gage height, 24.91 ft (7.593 m), present datum, from floodmark; no flow at times in some years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 74 ft<sup>3</sup>/s (2.10 m<sup>3</sup>/s) Jan. 6, gage height, 6.44 ft (1.963 m), maximum gage height, 6.99 ft (2.131 m) May 8, (backwater from aquatic growth); no flow several days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.9	1.9	1.7	1.7	1.9	.86	.97	1.2	1.5	1.8	.88	1.2
2	1.6	1.7	1.7	6.1	1.8	.04	1.0	1.5	1.4	1.7	.87	1.6
3	1.6	1.8	1.8	8.4	1.8	0	.94	3.3	1.3	1.6	.85	1.2
4	1.6	2.0	1.6	1.6	1.6	0	.96	1.3	.83	1.5	.92	1.1
5	1.6	2.0	1.7	4.7	1.7	0	.93	.93	1.4	1.8	.78	1.1
6	1.6	2.0	1.7	23	1.6	0	.90	1.3	1.6	1.7	.72	1.2
7	1.6	2.0	1.7	5.1	1.7	0	.89	3.3	1.6	1.6	.71	.86
8	1.6	2.0	1.7	2.0	1.6	0	.89	29	1.5	1.5	.82	.86
9	1.6	2.0	1.7	1.8	1.7	0	.92	10	1.8	1.4	.71	.89
10	1.6	2.0	1.7	1.9	1.6	.12	.90	1.2	1.7	1.3	.74	1.0
11	1.6	4.7	1.6	1.9	1.6	0	2.3	1.0	2.0	1.4	.72	.96
12	1.6	2.5	1.6	1.9	1.6	0	1.5	5.4	1.5	1.4	.82	1.0
13	1.6	1.8	1.7	1.8	1.5	0	1.0	2.9	1.6	1.2	3.4	.93
14	1.6	1.8	1.7	1.8	1.4	.05	1.1	.36	1.9	1.4	.65	.86
15	1.6	1.8	1.7	1.8	1.4	0	.92	0	2.7	1.3	.70	.76
16	1.6	1.7	1.7	1.8	1.5	18	.99	0	1.4	1.2	.98	.83
17	1.6	1.7	1.7	7.4	1.5	6.3	1.0	1.2	1.2	1.2	.95	.89
18	1.7	1.8	1.6	2.6	1.5	2.1	1.0	2.1	1.3	1.4	.69	.89
19	1.7	1.8	1.6	2.2	1.5	1.9	1.9	2.2	1.5	1.4	.64	1.1
20	1.8	1.7	1.6	2.0	1.4	2.0	1.3	3.2	1.7	1.4	.66	1.1
21	1.7	1.7	1.7	2.1	1.4	2.3	.94	1.4	1.8	1.2	.65	1.1
22	1.8	1.7	1.7	2.0	2.8	1.6	1.0	1.3	1.8	1.1	.63	2.0
23	1.8	1.8	1.7	2.0	1.9	1.3	1.0	1.6	1.9	3.2	.77	1.4
24	1.8	1.8	1.7	2.2	1.3	1.2	1.2	1.5	1.9	.63	.95	1.0
25	1.8	1.8	1.7	2.5	1.2	1.3	1.2	1.3	1.8	.47	1.1	.89
26	1.9	1.7	1.6	2.1	1.2	1.0	1.1	1.4	1.7	.86	.86	1.1
27	1.9	1.8	1.6	2.0	1.2	1.1	1.1	1.2	2.0	.93	.87	1.1
28	2.0	1.7	1.7	1.8	1.1	1.6	1.1	1.6	2.0	.96	.87	1.2
29	2.1	1.7	1.7	1.8	---	1.1	1.1	1.5	1.8	.96	.89	1.2
30	2.0	1.7	1.7	1.8	---	1.1	1.6	1.4	1.9	.98	1.1	1.0
31	1.9	---	1.7	1.9	---	.99	---	1.6	---	.98	1.3	---
TOTAL	57.4	58.1	52.0	103.7	44.0	45.96	33.65	87.19	50.03	41.47	28.20	32.32
MEAN	1.85	1.94	1.68	3.35	1.57	1.48	1.12	2.81	1.67	1.34	.91	1.08
MAX	5.9	4.7	1.8	23	2.8	18	2.3	29	2.7	3.2	3.4	2.0
MIN	1.6	1.7	1.6	1.6	1.1	0	.89	0	.83	.47	.63	.76
AC-FT	114	115	103	206	87	91	67	173	99	82	56	64
CAL YR 1976	TOTAL	1271.50	MEAN	3.47	MAX	229	MIN	1.1	AC-FT	2520		
WTR YR 1977	TOTAL	634.02	MEAN	1.74	MAX	29	MIN	0	AC-FT	1260		

## SAN ANTONIO CREEK BASIN

11135800 SAN ANTONIO CREEK AT LOS ALAMOS, CA

LOCATION.--Lat 34°44'36", long 120°16'12", in Los Alamos Grant, Santa Barbara County, on left bank 100 ft (30 m) upstream from bridge on northbound lane of Highway 101 at Los Alamos.

DRAINAGE AREA.--34.9 mi<sup>2</sup> (90.4 km<sup>2</sup>).

PERIOD OF RECORD.--October 1970 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 580 ft (177 m), from topographic map.

REMARKS.--Records fair. No regulation above station. Pumping for irrigation of about 1,000 acres (4.05 km<sup>2</sup>) above station.

AVERAGE DISCHARGE.--7 years, 0.24 ft<sup>3</sup>/s (0.007 m<sup>3</sup>/s), 174 acre-ft/yr (215,000 m<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 233 ft<sup>3</sup>/s (6.60 m<sup>3</sup>/s) Jan. 18, 1973, gage height, 3.60 ft (1.097 m), from rating curve extended above 3.0 ft<sup>3</sup>/s (0.085 m<sup>3</sup>/s) on basis of slope-area measurements at gage heights, 2.16 ft (0.658 m) and 3.60 ft (1.097 m); no flow most of each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 0.68 ft<sup>3</sup>/s (0.019 m<sup>3</sup>/s) May 8, gage height, 1.44 ft (0.439 m), no peak above base of 30 ft<sup>3</sup>/s (0.85 m<sup>3</sup>/s); no flow most of year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1				0		0	0	0				
2				0		0	.03	0				
3				0		0	0	0				
4				0		0	0	0				
5				0		0	0	0				
6				.01		0	.01	0				
7				.05		0	0	0				
8				0		0	0	.03				
9				0		0	.02	.11				
10				0		0	0	0				
11				0		0	0	0				
12				0		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	0				
18				0		0	0	0				
19				0		0	0	0				
20				0		0	0	0				
21				0		0	0	0				
22				0		0	0	0				
23				0		0	0	0				
24				0		0	0	0				
25				0		.01	0	0				
26				0		0	0	0				
27				0		.01	0	0				
28				0		0	0	0				
29				0	---	0	0	0				
30				0	---	.01	0	0				
31		---		0	---	.02	---	0	---			---
TOTAL	0	0	0	.06	0	.05	.06	.14	0	0	0	0
MEAN	0	0	0	.002	0	.002	.002	.005	0	0	0	0
MAX	0	0	0	.05	0	.02	.03	.11	0	0	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	0	0	.1	0	.10	.1	.3	0	0	0	0
CAL YR 1976	TOTAL	22.39	MEAN .061	MAX 6.8	MIN 0	AC-FT 44						
WTR YR 1977	TOTAL	0.31	MEAN .0008	MAX .11	MIN 0	AC-FT .6						

## 11136100 SAN ANTONIO CREEK NEAR CASMALIA, CA

LOCATION.--Lat 34°46'56", long 120°31'47", in Jesus Maria Grant, Santa Barbara County, on Vandenberg Military Reservation on downstream side of center pile bent of San Antonio Road bridge, 0.7 mi (1.1 km) east of junction of San Antonio Road and Lompoc-Casmalia Road, and 3.8 mi (6.1 km) south of Casmalia.

DRAINAGE AREA.--135 mi<sup>2</sup> (350 km<sup>2</sup>).

PERIOD OF RECORD.--October 1955 to current year.

GAGE.--Water-stage recorder. Concrete control since August 1970. Altitude of gage is 160 ft (49 m), from topographic map. Prior to June 27, 1958, at datum 2.00 ft (0.610 m) higher.

REMARKS.--Records good. No regulation above station. Flow affected by pumping from wells along stream for irrigation above station.

AVERAGE DISCHARGE.--22 years, 4.92 ft<sup>3</sup>/s (0.139 m<sup>3</sup>/s), 3,560 acre-ft/yr (4.39 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,300 ft<sup>3</sup>/s (65.1 m<sup>3</sup>/s) Feb. 25, 1969, gage height, 11.79 ft (3.594 m); minimum daily, 0.10 ft<sup>3</sup>/s (0.003 m<sup>3</sup>/s) June 19, 20, 1957.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 27 ft<sup>3</sup>/s (0.76 m<sup>3</sup>/s) May 9, gage height, 5.00 ft (1.524 m), no peak above base of 100 ft<sup>3</sup>/s (2.83 m<sup>3</sup>/s); minimum daily, 0.16 ft<sup>3</sup>/s (0.005 m<sup>3</sup>/s) Sept. 17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.1	.52	.67	1.7	1.3	1.3	1.4	.77	.56	.33	.32	.40
2	.94	.51	.70	1.8	1.4	1.3	1.4	.70	.52	.32	.45	.36
3	.76	.49	.71	3.5	1.3	1.2	1.4	.69	.51	.31	.53	.36
4	.64	.47	.77	2.1	1.3	1.2	1.3	.66	.50	.31	.50	.27
5	.58	.48	.79	1.8	1.3	1.2	1.3	.65	.45	.29	.38	.27
6	.53	.49	.79	3.7	1.3	1.2	1.3	.60	.48	.28	.36	.27
7	.50	.52	.79	6.7	1.3	1.2	1.3	.66	.47	.33	.43	.23
8	.52	.52	.79	3.2	1.3	1.2	1.2	3.6	.53	.31	.81	.23
9	.50	.54	.80	2.0	1.4	1.2	1.3	19	.56	.34	1.0	.27
10	.49	.53	.79	1.7	1.3	1.2	1.2	10	.53	.33	.88	.23
11	.49	.62	.79	1.5	1.3	1.2	1.1	3.7	.47	.33	.52	.23
12	.50	1.0	.79	1.5	1.3	1.8	1.2	2.4	.47	.34	.38	.23
13	.46	.67	.82	1.5	1.2	1.7	1.1	2.2	.46	.30	.33	.23
14	.45	.69	.86	1.4	1.3	1.4	1.2	1.7	.44	.31	.31	.23
15	.46	.72	.87	1.4	1.2	1.4	1.2	1.4	.44	.31	.30	.23
16	.49	.72	.87	1.4	1.2	7.7	1.2	1.2	.45	.55	.28	.23
17	.49	.68	.87	1.3	1.2	6.3	1.2	1.1	.45	.99	.25	.16
18	.52	.65	.87	1.3	1.2	3.1	1.1	1.1	.40	.86	.26	.19
19	.49	.67	.88	1.4	1.3	2.3	1.1	.98	.41	.85	.29	.19
20	.55	.70	.91	1.4	1.3	1.9	1.0	.93	.44	.68	.34	.19
21	.53	.67	.95	1.3	1.3	1.7	1.0	.87	.41	.76	.33	.19
22	.52	.73	.95	1.3	1.3	1.6	1.0	.87	.38	1.2	.34	.19
23	.57	.69	.96	1.3	1.3	1.5	.97	.85	.37	.78	.32	.19
24	.59	.72	.96	1.3	1.3	1.5	.91	.77	.38	.54	.40	.23
25	.59	.70	.95	1.4	1.3	1.7	.86	.73	.37	.81	.40	.23
26	.54	.75	.96	1.4	1.4	1.7	.84	.70	.37	2.0	.39	.19
27	.48	.76	.96	1.3	1.4	1.5	.82	.65	.40	1.2	.32	.19
28	.46	.74	.99	1.4	1.3	1.4	.83	.61	.35	.73	.27	.36
29	.49	.74	.98	1.4	---	1.4	.76	.61	.36	.55	.27	.23
30	.52	.73	3.8	1.4	---	1.3	.76	.60	.35	.42	.52	.19
31	.52	---	2.3	1.3	---	1.4	---	.54	---	.31	.46	---
TOTAL	17.27	19.42	30.89	57.1	36.3	57.7	33.25	61.84	13.28	17.97	12.94	7.19
MEAN	.56	.65	1.00	1.84	1.30	1.86	1.11	1.99	.44	.58	.42	.24
MAX	1.1	1.0	3.8	6.7	1.4	7.7	1.4	19	.56	2.0	1.0	.40
MIN	.45	.47	.67	1.3	1.2	1.2	.76	.54	.35	.28	.25	.16
AC-FT	34	39	61	113	72	114	66	123	26	36	26	14

CAL YR 1976 TOTAL 499.19 MEAN 1.36 MAX 77 MIN .23 AC-FT 990  
WTR YR 1977 TOTAL 365.15 MEAN 1.00 MAX 19 MIN .16 AC-FT 724

## SANTA MARIA RIVER BASIN

11136400 WAGON ROAD CREEK NEAR STAUFFER, CA

LOCATION.--Lat 34°42'32", long 119°12'25", in SE¼SE¼SE¼ sec.9, T.7 N., R.22 W., Ventura County, on left bank 50 ft (15 m) downstream from Park Canyon Creek, 9.3 mi (15.0 km) southwest of Stauffer, and 10 mi (16 km) east of Ozena Guard Station.

DRAINAGE AREA.--17.9 mi<sup>2</sup> (46.4 km<sup>2</sup>).

PERIOD OF RECORD.--July 1972 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 4,500 ft (1,372 m), from topographic map.

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

AVERAGE DISCHARGE.--5 years, 1.75 ft<sup>3</sup>/s (0.050 m<sup>3</sup>/s), 1,270 acre-ft/yr (1.57 hm<sup>3</sup>/yr).

COOPERATION.--Fourteen discharge measurements were furnished by Ventura County Flood Control District.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 860 ft<sup>3</sup>/s (24.4 m<sup>3</sup>/s) Dec. 4, 1974, from rating curve extended above 80 ft<sup>3</sup>/s (2.27 m<sup>3</sup>/s) on basis of slope-area measurement at gage height 4.76 ft (1.451 m), and Sept. 10, 1976, on basis of slope-area measurement of peak flow; maximum gage height, 5.88 ft (1.792 m) Sept. 10, 1976, from floodmarks; no flow many days in some years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 64 ft<sup>3</sup>/s (1.81 m<sup>3</sup>/s) May 10, (1800 hrs) gage height, 3.13 ft (0.954 m), no other peaks above base of 50 ft<sup>3</sup>/s (1.42 m<sup>3</sup>/s); no flow many days July through September.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.03	.01	.01	1.5	.32	.18	.52	.11	.06	.01	0	
2	.03	.01	.01	3.6	.26	.17	.30	.11	.06	.01	0	
3	.03	.01	.01	2.0	.26	.16	.30	.11	.06	.01	0	
4	.03	.01	.01	.30	.20	.15	.30	.11	.06	.01	0	
5	.02	.01	.01	.45	.20	.14	.30	.11	.06	.01	0	
6	.01	.01	.01	.25	.26	.13	.30	.11	.06	.01	0	
7	.01	.01	.03	.21	.20	.12	.26	.11	.06	0	0	
8	.01	.01	.03	.25	.20	.12	.26	6.6	.06	0	0	
9	.01	.01	.01	3.4	.09	.11	.26	8.9	.06	0	0	
10	.01	.01	.01	7.9	.12	.11	.26	14	.06	0	0	
11	.01	.04	.01	8.8	.08	.11	.26	7.6	.05	0	0	
12	.01	2.6	.01	9.1	.09	.11	.19	3.5	.05	0	0	
13	.01	.08	.01	3.5	.12	.11	.19	.73	.05	0	0	
14	.01	1.3	.01	3.5	.12	.11	.19	.60	.05	0	0	
15	.01	.10	.01	6.0	.09	.11	.14	.27	.05	0	0	
16	.01	.05	.01	7.6	.09	2.4	.11	.17	.05	0	0	
17	.01	.03	.01	5.4	.09	1.3	.11	.17	.05	0	.38	
18	.01	.01	.01	15	.09	.78	.09	.15	.05	0	0	
19	.01	.01	.01	12	.09	.70	.09	.14	.04	0	0	
20	.02	.01	.01	11	.09	.64	.09	.10	.04	0	0	
21	.01	.01	.01	11	.14	.59	.09	.06	.04	0	0	
22	1.8	.01	.01	7.4	.17	.35	.08	.05	.04	0	0	
23	.03	.01	.01	5.0	.28	.26	.08	.07	.02	0	0	
24	.02	.01	.01	3.6	.24	.35	.08	.14	.02	0	0	
25	.02	.01	.01	2.4	.23	.46	.08	.07	.02	0	0	
26	.04	.01	.01	1.7	.22	.69	.08	.06	.02	0	0	
27	.03	.01	.01	1.2	.20	.50	.08	.06	.02	0	0	
28	.01	.01	.01	1.2	.19	.45	.11	.06	.02	0	0	
29	.01	.01	.01	.90	---	.43	.11	.06	.01	0	0	
30	.01	.01	.25	.55	---	.43	.11	.06	.01	0	0	
31	.01	---	1.2	.26	---	.43	---	.06	---	0	0	---
TOTAL	2.29	4.43	1.78	136.97	4.73	12.70	5.42	44.45	1.30	.06	.38	0
MEAN	.074	.15	.057	4.42	.17	.41	.18	1.43	.043	.002	.012	0
MAX	1.8	2.6	1.2	15	.32	2.4	.52	14	.06	.01	.38	0
MIN	.01	.01	.01	.21	.08	.11	.08	.05	.01	0	0	0
AC-FT	4.5	8.8	3.5	272	9.4	25	11	88	2.6	.1	.8	0

CAL YR 1976 TOTAL 505.73 MEAN 1.38 MAX 153 MIN 0 AC-FT 1000  
WTR YR 1977 TOTAL 214.51 MEAN .59 MAX 15 MIN 0 AC-FT 425



## 11136480 REYES CREEK NEAR VENTUCOPA, CA

LOCATION.--Lat 34°41'39", long 119°19'02", in SW¼NE¼SE¼ sec.21, T.7 N., R.23 W., Ventura County, on left bank 800 ft (244 m) from Lockwood Ozena Road, 1,900 ft (579 m) upstream from mouth, 3 mi (5 km) east of Ozena Guard Station, and 13 mi (21 km) southeast of Ventucopa.

DRAINAGE AREA.--4.62 mi<sup>2</sup> (11.97 km<sup>2</sup>).

PERIOD OF RECORD.--July 1972 to current year.

GAGE.--Water-stage recorder with concrete control. Altitude of gage is 3,690 ft (1,120 m), from topographic map.

REMARKS.--Records good. Small diversion upstream for domestic use.

COOPERATION.--Ten discharge measurements were furnished by Ventura County Flood Control District.

AVERAGE DISCHARGE.--5 years, 1.73 ft<sup>3</sup>/s (0.049 m<sup>3</sup>/s), 1,250 acre-ft/yr (1.54 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 138 ft<sup>3</sup>/s (3.91 m<sup>3</sup>/s) Feb. 11, 1973, gage height, 3.20 ft (0.975 m); no flow at times in some years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6.8 ft<sup>3</sup>/s (0.19 m<sup>3</sup>/s) May 9 (0530 hrs), gage height, 1.67 ft (0.509 m), no peaks above base of 20 ft<sup>3</sup>/s (0.57 m<sup>3</sup>/s); no flow Aug. 9-17, Aug. 23 to Sept. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.1	.72	.94	.76	1.4	1.0	1.5	1.1	1.7	.40	.03	
2	.92	.72	.95	1.3	1.4	1.0	1.5	1.1	1.5	.39	.03	
3	.92	.69	.90	3.0	1.4	1.1	1.4	1.0	1.5	.40	.02	
4	.87	.68	.92	1.4	1.3	1.1	1.4	1.0	1.4	.40	.02	
5	.76	.69	.92	1.2	1.3	1.1	1.5	1.0	1.4	.38	.01	
6	.71	.71	.92	1.3	1.3	1.1	1.6	1.0	1.4	.36	.01	
7	.65	.72	.92	1.3	1.2	1.1	1.6	1.1	1.3	.31	.01	
8	.67	.72	.87	1.2	1.2	1.0	1.5	3.4	1.3	.27	.01	
9	.64	.70	.87	1.2	1.2	1.0	1.5	5.1	1.3	.26	0	
10	.65	.71	.87	1.2	1.2	1.0	1.5	3.4	1.2	.25	0	
11	.63	.77	.87	1.1	1.2	1.0	1.5	2.9	1.2	.22	0	
12	.62	1.0	.87	1.1	1.2	1.1	1.5	2.7	1.2	.23	0	
13	.60	.96	.81	1.1	1.2	1.0	1.5	2.7	1.1	.20	0	
14	.61	.92	.81	1.1	1.2	1.0	1.4	3.0	1.1	.20	0	
15	.63	.92	.80	1.1	1.2	1.0	1.5	3.7	1.1	.18	0	
16	.64	.92	.78	1.1	1.2	1.5	1.5	3.9	1.1	.18	0	
17	.64	.91	.79	1.2	1.1	1.4	1.5	3.1	1.0	.17	0	
18	.64	.87	.81	1.4	1.1	1.2	1.4	2.8	.92	.14	.02	
19	.65	.87	.78	1.6	1.1	1.2	1.4	2.9	.92	.14	.03	
20	.65	.87	.76	1.7	1.1	1.2	1.4	2.9	.87	.15	.03	
21	.76	.91	.76	1.9	1.1	1.3	1.4	3.2	.87	.12	.02	
22	.78	.92	.76	1.8	1.1	1.4	1.3	3.4	.76	.12	.01	
23	.87	.92	.76	1.6	1.1	1.4	1.3	3.2	.71	.09	0	
24	.77	.92	.76	1.5	1.1	1.4	1.3	2.8	.71	.08	0	
25	.77	.92	.76	1.5	1.0	1.6	1.2	2.6	.66	.08	0	
26	.77	.95	.76	1.5	1.0	1.5	1.1	2.3	.56	.08	0	
27	.74	.93	.76	1.5	1.0	1.6	1.1	2.3	.52	.08	0	
28	.74	.96	.76	1.5	1.0	1.7	1.1	2.2	.48	.07	0	
29	.75	.98	.75	1.5	---	1.5	1.1	2.1	.44	.06	0	
30	.75	.93	.82	1.4	---	1.5	1.1	1.9	.40	.05	0	
31	.75	---	.77	1.4	---	1.5	---	1.8	---	.04	0	---
TOTAL	22.65	25.41	25.58	43.46	32.9	38.5	41.6	77.6	30.62	6.10	.25	0
MEAN	.73	.85	.83	1.40	1.18	1.24	1.39	2.50	1.02	.20	.008	0
MAX	1.1	1.0	.95	3.0	1.4	1.7	1.6	5.1	1.7	.40	.03	0
MIN	.60	.68	.75	.76	1.0	1.0	1.1	1.0	.40	.04	0	0
AC-FT	45	50	51	86	65	76	83	154	61	12	.5	0
CAL YR 1976	TOTAL 438.74		MEAN 1.20	MAX	26	MIN 0	AC-FT 870					
WTR YR 1977	TOTAL 344.67		MEAN .94	MAX	5.1	MIN 0	AC-FT 684					

11136800 CUYAMA RIVER BELOW BUCKHORN CANYON, NEAR SANTA MARIA, CA

LOCATION.--Lat 35°01'19", long 120°13'39", in SW¼ sec.14, T.11 N., R.32 W., San Luis Obispo-Santa Barbara County line, on downstream side of bridge on State Highway 166, 0.7 mi (1.1 km) downstream from Buckhorn Canyon, and 13 mi (21 km) northeast of Santa Maria.

DRAINAGE AREA.--886 mi<sup>2</sup> (2,295 km<sup>2</sup>).

PERIOD OF RECORD.--October 1903 to December 1905 (published as Santa Maria River near Santa Maria), October 1959 to current year. Monthly discharge only for October 1903 and July 1904 and yearly estimate for water year 1941 (incomplete), published in WSP 1315-B.

GAGE.--Water-stage recorder. Altitude of gage is 760 ft (232 m), from topographic map. Prior to October 1959, nonrecording gage at different site and datum.

REMARKS.--Records fair. No regulation above station. Pumping from wells along stream for irrigation of several thousand acres in Upper Cuyama Valley.

AVERAGE DISCHARGE.--20 years (water years 1904, 1905, 1960-77) 19.2 ft<sup>3</sup>/s (0.544 m<sup>3</sup>/s), 13,910 acre-ft/vr (17.2 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,800 ft<sup>3</sup>/s (504 m<sup>3</sup>/s) Feb. 25, 1969, gage height, 13.70 ft (4.176 m), from rating curve extended above 4,900 ft<sup>3</sup>/s (139 m<sup>3</sup>/s) on basis of slope-area measurement at gage height 10.85 ft (3.307 m); no flow at times in most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 214 ft<sup>3</sup>/s (6.06 m<sup>3</sup>/s) Jan. 3, (2100 hrs), gage height, 7.07 ft (2.155 m), no other peak above base of 200 ft<sup>3</sup>/s (5.66 m<sup>3</sup>/s); no flow for several months during year.

REVISIONS.--The discharge for Sept. 30, 1976, has been revised to 460 ft<sup>3</sup>/s (13.0 m<sup>3</sup>/s), gage height, 7.30 ft (2.225 m); revised daily discharges, in cubic feet per second, for high water period in September 1976, are given below. These figures supersede those published in the report for 1976.

Sept. 28.....	0.07	Sept. 29.....	0.05	Sept. 30.....	213
Month	Total	Mean	Max	Min	
September 1976	258.87	8.63	213	0	
Wtr Yr 1976	636.03	1.74	250	0	

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	.05	.05	.06	.09	.04	.05	0				
2	.65	.04	.05	.54	.09	.05	.05	0				
3	.26	.04	.05	31	.08	.04	.05	0				
4	.11	.04	.05	68	.07	.03	.04	0				
5	.06	.04	.04	6.7	.06	.03	.04	0				
6	.05	.04	.04	5.1	.06	.04	.04	0				
7	.04	.04	.04	6.1	.06	.04	.04	0				
8	.04	.04	.04	3.2	.06	.04	.03	0				
9	.04	.04	.05	1.6	.06	.04	.03	0				
10	.04	.04	.05	.90	.06	.04	.04	35				
11	.03	.04	.05	.53	.06	.04	.03	5.4				
12	.03	.04	.05	.32	.05	.03	.02	1.0				
13	.03	.04	.05	.24	.05	.03	.01	.58				
14	.03	.04	.05	.15	.05	.03	.01	.25				
15	.02	.04	.05	.10	.05	.03	0	.04				
16	.03	.04	.05	.09	.05	1.8	0	.03				
17	.03	.04	.05	.08	.05	.86	0	0				
18	.02	.04	.05	.09	.05	.08	0	0				
19	.02	.04	.05	.10	.05	.06	0	0				
20	.03	.04	.05	.08	.05	.05	0	0				
21	.03	.04	.05	.08	.05	.05	0	0				
22	.03	.04	.05	.08	.05	.05	0	.01				
23	.03	.04	.05	.08	.05	.05	0	.01				
24	11	.04	.04	.07	.05	.06	0	0				
25	1.9	.04	.05	.08	.05	.09	0	0				
26	.40	.04	.05	.08	.05	.06	0	0				
27	.10	.04	.05	.09	.05	.05	0	0				
28	.08	.04	.05	.12	.05	.04	0	0				
29	.06	.04	.05	.10	---	.05	0	0				
30	.05	.05	.11	.10	---	.05	0	0				
31	.05	---	.12	.09	---	.05	---	0	---			---
TOTAL	31.29	1.22	1.63	125.95	1.60	4.00	.48	42.32	0	0	0	0
MEAN	1.01	.041	.053	4.06	.057	.13	.016	1.37	0	0	0	0
MAX	16	.05	.12	68	.09	1.8	.05	35	0	0	0	0
MIN	.02	.04	.04	.06	.05	.03	0	0	0	0	0	0
AC-FT	62	2.4	3.2	250	3.2	7.9	1.0	84	0	0	0	0

CAL YR 1976	TOTAL 772.15	MEAN 2.11	MAX 338	MIN 0	AC-FT 1530
WTR YR 1977	TOTAL 208.49	MEAN .57	MAX 68	MIN 0	AC-FT 414

## 11137400 ALAMO CREEK NEAR NIPOMO, CA

LOCATION.--Lat 35°02'55", long 120°18'05", in Huasna Grant, San Luis Obispo County, on right bank 3.2 mi (5.1 km) upstream from mouth, and 10 mi (16 km) east of Nipomo.

DRAINAGE AREA.--83.3 mi<sup>2</sup> (215.7 km<sup>2</sup>).

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

GAGE.--Water-stage recorder. Altitude of gage is 650 ft (198 m), from topographic map. Prior to Oct. 1, 1966, at datum 2.00 ft (0.610 m) higher.

REMARKS.--No flow since Mar. 22, 1975. No regulation or diversion above station.

AVERAGE DISCHARGE.--18 years, 7.14 ft<sup>3</sup>/s (0.202 m<sup>3</sup>/s), 5,170 acre-ft/yr (6.37 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,020 ft<sup>3</sup>/s (255 m<sup>3</sup>/s) Jan. 25, 1969, gage height, 10.51 ft (3.203 m), from rating curve extended above 3,100 ft<sup>3</sup>/s (87.8 m<sup>3</sup>/s) on basis of slope-area measurement at gage height 10.30 ft (3.139 m); no flow for all or part of each year.

EXTREMES FOR CURRENT YEAR.--No flow during year.

## SANTA MARIA RIVER BASIN

11137900 HUASNA RIVER NEAR ARROYO GRANDE, CA

LOCATION.--Lat 35°04'40", long 120°22'15", in Huasna Grant, San Luis Obispo County, on right bank 300 ft (91 m) downstream from Huasna Creek, and 12 mi (19 km) southeast of Arroyo Grande.

DRAINAGE AREA.--103 mi<sup>2</sup> (267 km<sup>2</sup>).

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

GAGE.--Water-stage recorder. Altitude of gage is 640 ft (195 m), from topographic map.

REMARKS.--Records fair. No regulation above station. Some diversion above station into cattle ponds by two ranches upstream and one ranch at station. Extensive diversions by pumping for irrigation above station.

AVERAGE DISCHARGE.--18 years, 16.2 ft<sup>3</sup>/s (0.459 m<sup>3</sup>/s), 11,740 acre-ft/yr (14.5 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,000 ft<sup>3</sup>/s (595 m<sup>3</sup>/s) Jan. 25, 1969, gage height, 15.90 ft (4.846 m), from rating curve extended above 1,300 ft<sup>3</sup>/s (36.8 m<sup>3</sup>/s) on basis of slope-area measurement of maximum flow; no flow at times in some years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1.3 ft<sup>3</sup>/s (0.037 m<sup>3</sup>/s) Apr. 12, gage height, 2.47 ft (0.753 m); maximum gage height, 2.58 ft (0.786 m) Nov. 11 (backwater from aquatic growth); no peak above base of 40 ft<sup>3</sup>/s (1.13 m<sup>3</sup>/s); no flow several months.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.13	.19	.22	.20	.09	.03	.12	.05				
2	.13	.19	.22	.23	.09	.04	.13	.04				
3	.11	.18	.22	.23	.09	.04	.15	.04				
4	.10	.17	.21	.20	.08	.03	.13	.03				
5	.12	.18	.22	.20	.08	.03	.15	.03				
6	.13	.18	.21	.20	.07	.04	.15	.03				
7	.10	.18	.21	.20	.07	.04	.15	.03				
8	.10	.18	.21	.19	.07	.04	.15	.05				
9	.09	.17	.21	.19	.07	.04	.15	.05				
10	.10	.18	.21	.19	.06	.04	.17	.05				
11	.10	.22	.21	.19	.05	.04	.17	.05				
12	.10	.22	.21	.20	.05	.08	.25	.05				
13	.11	.20	.21	.20	.05	.10	.11	.06				
14	.11	.19	.22	.20	.05	.10	.10	.06				
15	.11	.19	.22	.20	.05	.10	.08	.06				
16	.11	.19	.21	.19	.05	.20	.07	.06				
17	.12	.19	.22	.19	.05	.30	.05	.06				
18	.12	.19	.22	.16	.05	.20	.05	.06				
19	.12	.19	.21	.15	.04	.19	.04	.06				
20	.12	.19	.22	.13	.04	.19	.04	.06				
21	.13	.19	.21	.13	.04	.18	.04	.06				
22	.13	.19	.19	.11	.04	.17	.08	.06				
23	.13	.19	.19	.10	.04	.17	.10	.07				
24	.14	.19	.19	.11	.04	.16	.09	.06				
25	.14	.21	.20	.11	.04	.16	.08	.06				
26	.14	.22	.21	.11	.04	.15	.08	.05				
27	.15	.22	.21	.11	.04	.15	.05	.04				
28	.17	.22	.20	.10	.03	.14	.06	.02				
29	.18	.22	.20	.10	---	.13	.05	.01				
30	.18	.22	.21	.10	---	.12	.05	0				
31	.18	---	.23	.09	---	.13	---	0	---			---
TOTAL	3.90	5.84	6.53	5.01	1.56	3.53	3.09	1.41	0	0	0	0
MEAN	.13	.19	.21	.16	.056	.11	.10	.046	0	0	0	0
MAX	.18	.22	.23	.23	.09	.30	.25	.07	0	0	0	0
MIN	.09	.17	.19	.09	.03	.03	.04	0	0	0	0	0
AC-FT	7.7	12	13	9.9	3.1	7.0	6.1	2.8	0	0	0	0
CAL YR 1976	TOTAL	104.41	MEAN	.29	MAX	3.0	MIN	0	AC-FT	207		
WTR YR 1977	TOTAL	30.87	MEAN	.085	MAX	.30	MIN	0	AC-FT	61		

## 11138100 CUYAMA RIVER BELOW TWITCHELL DAM, CA

LOCATION.--Lat 34°56'40", long 120°17'30", in Suey Grant, Santa Barbara County, on left bank 3.5 mi (5.6 km) upstream from mouth, 4 mi (6 km) northeast of Garey, and 4.4 mi (7.1 km) downstream from Twitchell Dam.

DRAINAGE AREA.--1,132 mi<sup>2</sup> (2,932 km<sup>2</sup>).

PERIOD OF RECORD.--October 1958 to current year.

GAGE.--Water-stage recorder. Datum of gage is 401.94 ft (122.511 m) above mean sea level (Bureau of Reclamation bench mark).

REMARKS.--No flow since July 8, 1975. Flow regulated since February 1959 by Twitchell Reservoir, capacity 240,000 acre-ft (296 hm<sup>3</sup>). Controlled releases are for ground-water recharge in Santa Maria Valley. Some pumping from wells along stream for irrigation above station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,100 ft<sup>3</sup>/s (258 m<sup>3</sup>/s) June 13, 1973, gage height, 8.22 ft (2.505 m), result of sluicing at dam; no flow at times in each year.

EXTREMES FOR CURRENT YEAR.--No flow during year.

## SANTA MARIA RIVER BASIN

11138500 SISQUOC RIVER NEAR SISQUOC, CA

LOCATION.--Lat 34°50'23", long 120°10'02", in Sisquoc Grant, Santa Barbara County, on left bank 2.6 mi (4.2 km) upstream from La Brea Creek, and 7 mi (11 km) east of Sisquoc.

DRAINAGE AREA.--281 mi<sup>2</sup> (728 km<sup>2</sup>).

PERIOD OF RECORD.--October 1943 to current year. October 1929 to September 1933, at site 0.2 mi (0.3 km) downstream; low-flow records not equivalent owing to diversion immediately upstream. Monthly discharge only for some periods, published in WSP 1315-B.

GAGE.--Water-stage recorder. Datum of gage is 624.30 ft (190.287 m) above mean sea level (Corps of Engineers bench mark). See WSP 1735 for history of changes prior to Aug. 24, 1951.

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

AVERAGE DISCHARGE.--34 years, 38.9 ft<sup>3</sup>/s (1.102 m<sup>3</sup>/s), 28,180 acre-ft/yr (34.7 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 23,200 ft<sup>3</sup>/s (657 m<sup>3</sup>/s) Dec. 6, 1966, gage height, 15.75 ft (4.801 m), from rating curve extended above 1,700 ft<sup>3</sup>/s (48.1 m<sup>3</sup>/s) on basis of slope-area measurements at gage heights 10.08 ft (3.072 m) and 15.75 ft (4.801 m); no flow Nov. 11-18, 1967.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 2, 1938, 11,000 ft<sup>3</sup>/s (312 m<sup>3</sup>/s), gage height, 8.1 ft (2.47 m), from high-water mark in gage well, at site in use 1929-33, from rating curve extended above 2,800 ft<sup>3</sup>/s (79.3 m<sup>3</sup>/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 119 ft<sup>3</sup>/s (3.37 m<sup>3</sup>/s) Jan. 3 (1800 hrs), gage height, 4.32 ft (1.317 m), no other peak above base of 100 ft<sup>3</sup>/s (2.83 m<sup>3</sup>/s); minimum daily, 0.33 ft<sup>3</sup>/s (0.009 m<sup>3</sup>/s) Sept. 27-30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	1.6	1.2	7.7	1.9	1.4	1.6	1.1	3.4	.74	.72	.40
2	6.9	1.6	1.2	17	1.9	1.4	1.6	1.1	3.1	.74	.70	.39
3	4.8	1.6	1.2	46	1.8	1.3	1.6	1.1	2.8	.74	.67	.39
4	4.3	1.6	1.2	27	1.8	1.3	1.6	1.0	2.6	.74	.65	.39
5	4.0	1.6	1.2	11	1.8	1.3	1.6	1.0	2.4	.74	.63	.39
6	3.5	1.6	1.2	20	1.8	1.3	1.5	1.0	2.1	.74	.60	.38
7	3.4	1.6	1.2	25	1.8	1.3	1.5	1.0	1.9	.74	.59	.38
8	2.9	1.5	1.2	14	1.7	1.3	1.5	1.5	1.8	.74	.57	.38
9	2.6	1.5	1.2	8.4	1.7	1.2	1.5	3.5	1.7	.74	.55	.38
10	2.6	1.5	1.2	6.0	1.7	1.2	1.5	30	1.6	.74	.54	.37
11	2.6	1.5	1.2	5.2	1.7	1.2	1.5	25	1.5	.74	.52	.37
12	2.1	3.0	1.2	4.1	1.7	1.2	1.4	20	1.4	.74	.51	.37
13	2.1	2.0	1.2	3.4	1.6	1.2	1.4	16	1.3	.74	.50	.37
14	2.1	1.8	1.2	3.1	1.6	1.2	1.4	14	1.2	.74	.49	.36
15	1.9	1.6	1.2	2.6	1.6	1.2	1.4	13	1.1	.74	.48	.36
16	1.9	1.5	1.2	2.1	1.6	1.6	1.4	12	1.1	.75	.48	.36
17	1.9	1.5	1.2	1.9	1.6	2.0	1.4	11	1.0	.75	.47	.36
18	1.9	1.4	1.2	1.9	1.6	5.2	1.4	10	.98	.75	.46	.35
19	1.9	1.4	1.2	1.9	1.5	1.7	1.4	9.3	.94	.76	.46	.35
20	1.9	1.4	1.2	1.7	1.5	1.5	1.2	8.8	.92	.76	.45	.35
21	1.9	1.4	1.1	1.7	1.5	1.5	1.2	8.1	.88	.76	.44	.35
22	1.9	1.4	1.1	1.5	1.5	1.5	1.2	7.5	.86	.77	.43	.34
23	2.1	1.4	1.1	1.5	2.4	1.5	1.2	7.0	.84	.77	.41	.34
24	2.1	1.4	1.1	1.5	1.7	1.5	1.2	6.6	.80	.78	.40	.34
25	1.9	1.4	1.1	1.7	1.5	2.5	1.2	6.3	.78	.78	.40	.34
26	1.8	1.3	1.1	1.7	1.4	1.9	1.2	5.8	.76	.80	.40	.34
27	1.7	1.3	1.1	1.7	1.4	1.8	1.2	5.3	.74	.80	.40	.33
28	1.7	1.3	1.1	1.9	1.4	1.8	1.1	4.8	.73	.80	.40	.33
29	1.7	1.3	1.1	1.9	---	1.7	1.1	4.4	.74	.78	.40	.33
30	1.7	1.3	1.2	1.9	---	1.7	1.1	4.0	.74	.77	.40	.33
31	1.7	---	1.4	1.9	---	1.7	---	3.7	---	.75	.40	---
TOTAL	89.5	46.3	36.5	228.9	46.7	64.5	41.1	244.9	42.71	23.43	15.52	10.82
MEAN	2.89	1.54	1.18	7.38	1.67	2.08	1.37	7.90	1.42	.76	.50	.36
MAX	14	3.0	1.4	46	2.4	16	1.6	30	3.4	.80	.72	.40
MIN	1.7	1.3	1.1	1.5	1.4	1.2	1.1	1.0	.73	.74	.40	.33
AC-FT	178	92	72	454	93	128	82	486	85	46	31	21
CAL YR 1976	TOTAL	2148.03	MEAN 5.87	MAX 250	MIN .86	AC-FT 4260						
WTR YR 1977	TOTAL	890.88	MEAN 2.44	MAX 46	MIN .33	AC-FT 1770						

## 11139500 TEPUSQUET CREEK NEAR SISQUOC, CA

LOCATION.--Lat 34°52'21", long 120°14'37", in NE¼ sec.9, T.9 N., R.32 W., Santa Barbara County, on downstream wingwall of right bridge abutment on Tepusquet Road, 1.1 mi (1.8 km) upstream from mouth, and 3 mi (5 km) east of Sisquoc.

DRAINAGE AREA.--28.7 mi<sup>2</sup> (74.3 km<sup>2</sup>).

PERIOD OF RECORD.--October 1943 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 500 ft (152 m), from topographic map. Prior to Dec. 9, 1948, at datum 0.9 ft (0.27 m) higher.

REMARKS.--Records fair except those above 1.0 ft<sup>3</sup>/s (0.028 m<sup>3</sup>/s), which are poor. No regulation above station. Some diversion by pumping from wells along stream to irrigate about 100 acres (405,000 m<sup>2</sup>) above gage.

AVERAGE DISCHARGE.--34 years, 1.47 ft<sup>3</sup>/s (0.042 m<sup>3</sup>/s), 1,070 acre-ft/yr (1.32 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 788 ft<sup>3</sup>/s (22.3 m<sup>3</sup>/s) Dec. 6, 1966, gage height, 5.48 ft (1.670 m), from rating curve extended above 220 ft<sup>3</sup>/s (6.23 m<sup>3</sup>/s) on basis of computation of maximum flow at contracted opening; no flow at times in some years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 11 ft<sup>3</sup>/s (0.31 m<sup>3</sup>/s) Dec. 30, gage height, 2.66 ft (0.811 m), from rating curve extended above 1.0 ft<sup>3</sup>/s (0.028 m<sup>3</sup>/s), no peak above base of 50 ft<sup>3</sup>/s (1.42 m<sup>3</sup>/s); no flow July 30 to Sept. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.22	.15	.19	.38	.22	.20	.25	.19	.21	.16		
2	.19	.14	.18	.50	.22	.17	.21	.15	.21	.17		
3	.17	.14	.19	.31	.21	.19	.19	.16	.19	.18		
4	.16	.13	.19	.21	.22	.21	.18	.14	.18	.17		
5	.15	.13	.19	.31	.23	.19	.17	.15	.18	.17		
6	.14	.13	.20	.34	.23	.17	.17	.19	.19	.18		
7	.13	.12	.22	.30	.23	.20	.17	.25	.19	.16		
8	.13	.12	.22	.23	.22	.19	.17	.34	.20	.16		
9	.14	.14	.23	.22	.23	.19	.17	.39	.22	.16		
10	.14	.16	.24	.23	.22	.18	.15	.34	.21	.16		
11	.15	.20	.21	.22	.21	.18	.15	.34	.21	.15		
12	.15	.20	.21	.23	.19	.17	.16	.45	.21	.15		
13	.15	.17	.20	.23	.19	.19	.16	.34	.21	.14		
14	.16	.18	.20	.24	.18	.19	.15	.34	.20	.13		
15	.17	.16	.24	.22	.18	.19	.14	.30	.21	.11		
16	.18	.16	.24	.23	.17	1.1	.14	.34	.20	.11		
17	.26	.16	.24	.21	.19	.29	.13	.27	.20	.09		
18	.21	.15	.24	.20	.18	.27	.12	.34	.21	.04		
19	.21	.15	.25	.20	.19	.29	.15	.27	.21	.07		
20	.22	.16	.27	.20	.19	.28	.14	.27	.19	.09		
21	.21	.16	.26	.21	.21	.27	.14	.25	.19	.09		
22	.20	.16	.27	.21	.20	.22	.14	.27	.18	.08		
23	.20	.16	.27	.20	.21	.20	.14	.27	.19	.05		
24	.20	.16	.32	.22	.20	.33	.17	.27	.19	.05		
25	.18	.17	.30	.22	.20	.42	.15	.25	.18	.09		
26	.16	.17	.30	.22	.20	.27	.16	.23	.18	.04		
27	.16	.16	.25	.23	.21	.28	.18	.22	.17	.04		
28	.16	.18	.24	.24	.22	.28	.19	.20	.18	.02		
29	.17	.19	.24	.23	---	.28	.20	.21	.19	.02		
30	.18	.19	.70	.22	---	.24	.19	.21	.18	0		
31	.17	---	.39	.21	---	.25	---	.20	---	0		---
TOTAL	5.42	4.75	7.89	7.62	5.75	8.08	4.93	8.14	5.86	3.23	0	0
MEAN	.17	.16	.25	.25	.21	.26	.16	.26	.20	.10	0	0
MAX	.26	.20	.70	.50	.23	1.1	.25	.45	.22	.18	0	0
MIN	.13	.12	.18	.20	.17	.17	.12	.14	.17	0	0	0
AC-FT	11	9.4	16	15	11	16	9.8	16	12	6.4	0	0
CAL YR 1976	TOTAL 91.61	MEAN .25	MAX 3.7	MIN .06	AC-FT 182							
WTR YR 1977	TOTAL 61.67	MEAN .17	MAX 1.1	MIN 0	AC-FT 122							

LOCATION.--Lat 34°53'38", long 120°18'20", in SW¼ sec.36, T.10 N., R.33 W., Santa Barbara County, on downstream side of Santa Maria Mesa Road bridge near right bank, 0.6 mi (1.0 km) northeast of Garey, and 3.7 mi (6.0 km) downstream from Tepeusquet Creek.

PERIOD OF RECORD.--October 1940 to current year. Records for water year 1941 incomplete, yearly estimate and monthly discharge only for October 1940 and January 1941, published in WSP 1315-B.

REMARKS.--Records poor. No regulation above station. Pumping from wells along stream for irrigation of about 7,000 acres (28.3 km<sup>2</sup>) above station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 24,500 ft<sup>3</sup>/s (694 m<sup>3</sup>/s) Jan. 25, 1969, gage height, 13.00 ft (3.962 m); maximum gage height, 13.50 ft (4.115 m) Dec. 6, 1966; no flow for several months in each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 72 ft<sup>3</sup>/s (2.04 m<sup>3</sup>/s) Jan. 6, gage height, 3.84 ft (1.170 m), no peak above base of 100 ft<sup>3</sup>/s (2.83 m<sup>3</sup>/s); no flow for several months.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.9	0	0	0				0				
2	.01	0	0	0				0				
3	0	0	0	.70				0				
4	0	0	0	.20				0				
5	0	0	0	0				0				
6	0	0	0	5.9				0				
7	0	0	0	14				0				
8	0	0	0	4.7				0				
9	0	0	0	.02				1.9				
10	0	0	0	0				0				
11	0	0	0	0				0				
12	0	.10	0	0				0				
13	0	0	0	0				0				
14	0	0	0	0				0				
15	0	0	0	0				0				
16	0	0	0	0				0				
17	0	0	0	0				0				
18	0	0	0	0				0				
19	0	0	0	0				0				
20	0	0	0	0				0				
21	0	0	0	0				0				
22	0	0	0	0				0				
23	0	0	0	0				0				
24	0	0	0	0				0				
25	0	0	0	0				0				
26	0	0	0	0				0				
27	0	0	0	0				0				
28	0	0	0	0				0				
29	0	0	0	0		---		0				
30	0	0	.10	0		---		0				
31	0	---	.10	0		---	---	0	---			---
TOTAL	3.91	.10	.20	25.52	0	0	0	1.9	0	0	0	0
MEAN	.13	.003	.007	.82	0	0	0	.061	0	0	0	0
MAX	3.9	.10	.10	14	0	0	0	1.9	0	0	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	7.8	.2	.4	51	0	0	0	3.8	0	0	0	0
CAL YR 1976	TOTAL	201.46	MEAN .55	MAX 126	MIN 0	AC-FT 400						
WTR YR 1977	TOTAL	31.63	MEAN .087	MAX 14	MIN 0	AC-FT 63						



LOCATION.--Lat 34°58'00", long 120°25'00", in NE<sub>1</sub>NE<sub>1</sub>NE<sub>1</sub> sec.11, T.10 N., R.34 W., Santa Barbara County, on left bank 250 ft (76 m) south of Donovan Road, and 0.2 mi (0.3 km) east of U.S. Highway 101 in Santa Maria.

GAGE.--Water-stage recorder on concrete-lined channel. Altitude of gage is 225 ft (69 m), from topographic map.

AVERAGE DISCHARGE.--7 years, 0.86 ft<sup>3</sup>/s (0.024 m<sup>3</sup>/s), 623 acre-ft/yr (768,000 m<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 295 ft<sup>3</sup>/s (8.35 m<sup>3</sup>/s) Dec. 4, 1974, gage height, 5.08 ft (1.548 m), from rating curve based on computation of flow in concrete-lined channel; no flow for several days in each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 209 ft<sup>3</sup>/s (5.92 m<sup>3</sup>/s) Oct. 1 (1645 hrs), gage height, 4.25 ft (1.295 m), from rating curve based on computation of flow in concrete-lined channel; no other peaks above base of 100 ft<sup>3</sup>/s (2.83 m<sup>3</sup>/s); no flow on several days.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	40	.18	.38	.09	.08	1.1	.22	.10	.03	.17	.65	.37
2	3.2	.48	.21	2.4	.03	.24	.18	.08	.01	.07	.60	.37
3	.11	.70	.58	.41	.08	.38	.36	.05	.06	.18	.86	.50
4	.03	.56	.30	0	.24	.80	.24	.04	.04	.19	.79	.33
5	.02	.14	.01	2.6	.19	.84	.43	.19	.10	.27	.81	.54
6	.01	.54	.21	2.1	.02	.84	.18	.27	.06	.09	.90	.53
7	.02	.15	.48	.57	.48	.61	.14	.73	.28	.19	.57	.50
8	.01	.17	.60	0	.11	.43	.06	4.6	.01	.19	.78	.46
9	.02	.45	.30	0	.91	.48	.11	4.9	.20	.45	.59	.59
10	.01	.65	.39	.01	.62	.26	.11	.04	.06	.15	1.0	.43
11	.01	1.3	.59	0	.60	.77	.18	.10	.21	.28	.88	.27
12	.18	.20	.06	0	.26	.59	.44	.38	.05	.28	.90	.20
13	.66	.08	.40	0	.27	.52	.21	.07	.20	.40	.37	.04
14	.10	.04	.11	.01	.42	.19	.18	0	.02	.51	.43	.03
15	.09	.23	.54	.01	.50	.19	.17	0	.21	.49	.75	.01
16	.08	.33	.31	.02	.55	10	.09	0	.18	.23	.74	.05
17	.07	.33	2.2	.06	.42	.96	.02	0	.27	.61	.77	.13
18	.10	.36	2.5	.08	.48	.04	.02	0	.14	.67	1.1	.48
19	.62	.22	1.6	.08	.44	.01	.23	0	.16	.70	.68	.39
20	.18	.48	1.1	.14	.36	.01	.28	.01	.08	.73	.65	.29
21	.16	.02	2.6	.46	.55	.01	.05	.02	.33	.50	.67	.31
22	.19	.01	2.6	.24	.50	.06	.02	0	.11	.52	1.0	.34
23	.26	.20	2.3	.05	.30	.29	.04	0	.62	.25	.91	.06
24	.27	.42	.99	.35	.24	.67	.07	.02	.27	.49	.87	.17
25	.13	.16	.09	.65	.38	.80	.07	.01	.45	.45	.88	.14
26	.36	.12	.01	.04	.61	.13	.08	.01	.11	.62	.64	.03
27	.20	.33	.09	.22	.31	.04	.08	.07	.26	.41	.31	.68
28	.12	.54	1.0	.27	.73	.15	.17	.27	.12	.26	.39	.68
29	.08	.20	.99	.07	---	.32	.11	.13	.17	.45	.56	.48
30	.31	.23	1.8	.05	---	.25	.09	.19	.10	.65	.70	.46
31	.19	---	6.0	0	---	.17	---	.04	---	.58	.70	---
TOTAL	47.79	9.82	31.34	10.98	10.68	22.15	4.63	12.32	4.91	12.03	22.36	9.86
MEAN	1.54	.33	1.01	.35	.38	.71	.15	.40	.16	.39	.72	.33
MAX	40	1.3	6.0	2.6	.91	10	.44	4.9	.62	.73	1.1	.68
MIN	.01	.01	.01	0	.02	.01	.02	0	.01	.07	.31	.01
AC-FT	95	19	62	22	21	44	9.2	24	9.7	24	44	20
CAL YR 1976	TOTAL	328.32	MEAN	.90	MAX	40	MIN	0	AC-FT	651		
WTR YR 1977	TOTAL	198.87	MEAN	.54	MAX	40	MIN	0	AC-FT	394		

## SANTA MARIA RIVER BASIN

11141000 SANTA MARIA RIVER AT GUADALUPE, CA

LOCATION.--Lat 34°58'35", long 120°34'15", in Guadalupe Grant, Santa Barbara County, on downstream side of bridge on State Highway 1, 0.5 mi (0.8 km) north of Guadalupe, and 4.5 mi (7.2 km) upstream from mouth.

DRAINAGE AREA.--1,741 mi<sup>2</sup> (4,509 km<sup>2</sup>).

PERIOD OF RECORD.--October 1940 to current year. Monthly discharge only October 1940 to January 1941, published in WSP 1315-B.

GAGE.--Three water-stage recorders. Datum of main gage (left channel) is 64.92 ft (19.788 m) above mean sea level. Two supplementary gages; one on center channel at datum 0.47 ft (0.143 m) higher than main gage, and one on right channel at datum 2.22 ft (0.677 m) higher than main gage. Prior to Aug. 11, 1955, main gage at site 100 ft (30 m) upstream at same datum. Supplementary gages started in 1956.

REMARKS.--Records poor. Cuyama River regulated since February 1959 by Twitchell Reservoir, capacity, 240,000 acre-ft (296 hm<sup>3</sup>). Several small surface diversions and extensive pumping from wells for irrigation along stream above station. AVERAGE DISCHARGE represents flow to ocean, regardless of upstream development.

AVERAGE DISCHARGE.--37 years, 29.2 ft<sup>3</sup>/s (0.827 m<sup>3</sup>/s), 21,160 acre-ft/yr (26.1 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 32,800 ft<sup>3</sup>/s (929 m<sup>3</sup>/s) Jan. 16, 1952, gage height, 8.18 ft (2.493 m); maximum gage height, 10.00 ft (3.048 m) Feb. 26, 1969; no flow for all or parts of each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 24 ft<sup>3</sup>/s (0.68 m<sup>3</sup>/s) Oct. 2, gage height 5.55 ft (1.692 m); no flow most of year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0											
2	3.3											
3	0											
4	0											
5	0											
6	0											
7	0											
8	0											
9	0											
10	0											
11	0											
12	0											
13	0											
14	0											
15	0											
16	0											
17	0											
18	0											
19	0											
20	0											
21	0											
22	0											
23	0											
24	0											
25	0											
26	0											
27	0											
28	0											
29	0											
30	0											
31	0	---			---		---		---			---
TOTAL	3.3	0	0	0	0	0	0	0	0	0	0	0
MEAN	.11	0	0	0	0	0	0	0	0	0	0	0
MAX	3.3	0	0	0	0	0	0	0	0	0	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	6.5	0	0	0	0	0	0	0	0	0	0	0
CAL YR 1976	TOTAL 3.30	MEAN .0090	MAX 3.3	MIN 0	AC-FT 6.5							
WTR YR 1977	TOTAL 3.30	MEAN .0090	MAX 3.3	MIN 0	AC-FT 6.5							

## Crest-stage partial-record stations

The following table contains annual maximum discharges for crest-stage stations. A crest-stage gage is a device which will register the peak stage occurring between inspections of the gage. A stage-discharge relation for each gage is developed from discharge measurements made by indirect measurements of peak flow or by current meter. The date of the maximum discharge is not always certain, but is usually determined by comparison with nearby continuous-record stations, weather records, or local inquiry. Only the maximum discharge for the current water year is given. Information on some lower floods may have been obtained, but is not published herein. The years given in the period of record represent water years for which the annual maximum has been obtained.

Annual maximum discharge at crest-stage partial-record stations during water year 1977

					Annual maximum		
Station No.	Station name	Location	Drainage area (mi <sup>2</sup> )	Period of record	Date	Gage height (feet)	Discharge (ft <sup>3</sup> /s)
Dale Lake basin							
10253320	Quail Wash near Joshua Tree, CA	Lat 34°07'04", long 116°18'27", in SW¼NW¼NE¼ sec.1, T.1 S., R.6 E., San Bernardino County, on right bank 0.2 mi downstream from Coyote Hole Spring and 1.1 mi south of Joshua Tree.	100	1964-71† 1972-77	8-17-77	2.20	4.3
10253350	Fortynine Palms Creek near Twentynine Palms, CA	Lat 34°07'12", long 116°05'43" (unsurveyed), San Bernardino County, in Joshua Tree National Monument, on left bank 50 ft upstream from North Monument boundary, 1.1 mi downstream from Fortynine Palms Oasis, and 2.6 mi southwest of Twentynine Palms.	8.55	1962-71† 1972-77	8-17-77	0.67	23
Salton Sea basin							
10257800	Long Creek near Desert Hot Springs, CA	Lat 33°57'53", long 116°26'35", in NW¼SE¼SE¼ sec.27, T.2 S., R.4 E., Riverside County, on left bank 0.4 mi downstream from Metropolitan Water District aqueduct, and 3.3 mi east of Desert Hot Springs.	19.4	1963-71† 1972-77	8-17-77	3.00	350
Emerson Lake basin							
10260200	Pipes Creek near Yucca Valley, CA	Lat 34°10'19", long 116°32'45", in NE¼SE¼NE¼ sec.15, T.1 N., R.4 E., San Bernardino County, on left bank 2.8 mi upstream from Antelope Wash and 6.8 mi northwest of Yucca Valley.	15.1	1958-71† 1972-77	8-17-77	3.28	10.2
Indian Wells Valley basin							
10264780	El Paso Wash near Inyokern, CA	Lat 33°36'00", long 117°45'19", in NW¼SW¼ sec.11, T.27S., R.39 E., Kern County, at culvert on U.S. Highway 395, 4.5 mi (7.2 km) southeast of Inyokern.	34.6	1976-77	1-3-77	6.67	9.2
10264785	El Paso Wash tributary No. 5, near Inyokern, CA	Lat 35°35'49", long 117°45'10", in SE¼SW¼ sec.11, T.27 S., R.39 E., Kern County, at culvert on U.S. Highway 395, 4.8 mi (7.7 km) southeast of Inyokern.	.25	1976-77	1-3-77	3.52	4.3
10264790	El Paso Wash tributary No. 3 near Inyokern, CA	Lat 35°36'40", long 117°45'54", in NW¼SE¼ sec. 3, T.27 S., R.39 E., Kern County, at culvert on U.S. Highway 395, 3.6 mi (5.8 km) southeast of Inyokern.	1.67	1976-77	1-3-77	5.50	3.6
10264795	El Paso Wash tributary No. 4 near Inyokern, CA	Lat 35°36'27", long 117°45'39", in NE¼NE¼ sec.10, T.27 S., R.39 E., Kern County, at culvert on U.S. Highway 395, 4.0 mi (6.4 km) southeast of Inyokern.	.37	1976-77	1-3-77	4.16	.90
10264800	El Paso Wash tributary No. 2 near Inyokern, CA	Lat 35°37'05", long 117°46'16", in SW¼NW¼ sec.3, T.27 S., R.39 E., Kern County, at culvert on U.S. Highway 395, 3.0 mi (4.8 km) southeast of Inyokern.	.42	1976-77	1-3-77	6.76	.20

† Operated as a continuous-record gaging station.

## DISCHARGE AT PARTIAL-RECORD STATIONS

Annual maximum discharge at crest-stage partial-record stations during water year 1977--Continued

					Annual maximum		
Station No.	Station name	Location	Drain- age area (mi <sup>2</sup> )	Period of record	Date	Gage height (feet)	Discharge (ft <sup>3</sup> /s)
Indian Wells Valley basin--Continued							
10264810	El Paso Wash tributary No. 1 near Inyokern, CA	Lat 35°37'16", long 117°46'27", in NW¼NW¼ sec.3, T.27 S., R.39 E., Kern County, at culvert on U.S. Highway 395, 2.7 mi (4.3 km) southeast of Inyokern.	.48	1976-77	--	--	0
10264820	Little Dixie Wash near Inyokern, CA	Lat 35°38'04", long 117°47'06", in NE¼NW¼ sec.33, T.26 S., R.39 E., Kern County, at culvert on U.S. highway 395, 1.7 mi (2.7 km) southeast of Inyokern.	213	1976-77	1-3-77		17
Santa Monica Creek basin							
11119540	Santa Monica Creek at Carpinteria, CA	Lat 34°24'51", long 119°31'32", in Pueblo Lands of Santa Barbara, Santa Barbara County on right bank of Foothill Road (Hwy 192), 1.0 mi northwest of Carpinteria.	3.64	1969 1972-77	1-2-77	1.67	108
San Ysidro Creek basin							
11119660	San Ysidro Creek at Montecito, CA	Lat 34°26'46", long 119°37'17", in Pueblo Lands of Santa Barbara, Santa Barbara County, on right bank 0.5 mi north of intersection of San Ysidro and East Valley Roads, Montecito.	3.07	1969 1972-77	1-2-77	20.31	43
Sycamore Creek basin							
11119700	Sycamore Creek at Santa Barbara, CA	Lat 34°25'45", long 119°40'35", in Pueblo Lands of Santa Barbara, Santa Barbara County, on left bank at intersection of Sycamore Canyon Road and Alameda Padre Serra in Santa Barbara.	3.41	1971-72† 1973-77	1-2-77	2.29	208
Mission Creek basin							
11119740	Mission Creek at Santa Barbara, CA	Lat 34°27'09", long 119°42'30", in Pueblo Lands of Santa Barbara, Santa Barbara County, on left bank 0.4 mi north of intersection of Foothill Road (Hwy 192) and Mission Canyon Road, 0.8 mi north of Santa Barbara.	2.78	1972-77	1-2-77	15.85	7.8
Atascadero Creek basin							
11119900	Atascadero Creek at Puente Road, near Goleta, CA	Lat 34°25'56", long 119°47'00", in Pueblo Lands of Santa Barbara, Santa Barbara County, on right bank of Puente Drive, 0.4 mi south of Hollister Avenue, and 2.4 mi east of Goleta.	3.86	1971-72† 1973-77	1-2-77	2.48	348
Santa Ynez River basin							
11128700	Thumbelina Creek Buellton, CA	Lat 34°36'37", long 120°11'01", in San Carlos De Jonata Grant, Santa Barbara County, on right side of channel on north side of State Highway 246, 0.6 mi east of Buellton.	3.07	1972-77	1-11-77	5.77	37

† Operated as a continuous-record gaging station.

Annual maximum discharge at crest-stage partial-record stations during water year 1977--Continued

					Annual maximum		
Station No.	Station name	Location	Drain- age area (mi <sup>2</sup> )	Period of record	Date	Gage height (feet)	Discharge (ft <sup>3</sup> /s)
Santa Ynez River basin--Continued							
11131700	Santa Rita Creek nr Lompoc, CA	Lat 34°38'41", long 120°22'09", in Santa Rita Grant, Santa Barbara County, on left bank, 2.4 mi from mouth and 6.5 mi east of Lompoc.	14.1	1976-77	1-6-77	5.6	20
11133700	Purisima Creek nr Lompoc, CA	Lat 34°41'34", long 120°25'51", in Purisima Grant, Santa Barbara County, on right bank, 1.1 mi northeast of junction of Buener Road and Lompoc-Casmalia Road, 4.0 mi northeast of Lompoc.	4.75	1972-75† 1976-77	5-10-77	1.54	14
11135200	Rodeo San Pasqual Creek nr Lompoc, CA	Lat 34°38'42", long 120°30'57", in Lompoc Grant, Santa Barbara County, on left bank 0.1 mi east of Dewolf Avenue and at Highway 246, 3.3 mi west of Lompoc.	7.80	1971-72† 1973-76	--	<1.49	<28

## GROUND WATER

## LOS ANGELES COUNTY

344421118282201. Local number, 008N015W33G01 S.

LOCATION.--Lat 34°44'21", long 118°28'22", west of Fairmont.

Owner: Fairmont Farms.

AQUIFER.--Alluvium.

WELL CHARACTERISTICS.--Drilled domestic water-table well, diameter 12 in (30 cm), depth 400 ft (122 m), previously reported 282 ft (86 m), cased with steel.

DATUM.--Altitude of land-surface datum is 2,930 ft (893 m) above mean sea level.

REMARKS.--Records prior to 1968 furnished by California State Department of Water Resources.

PERIOD OF RECORD.--January 1946 to April 1950, June 1953 to April 1963, April 1967 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 194.00 ft (59.13 m) below land-surface datum,

Jan. 23, 1946; lowest measured, 284.00 ft (86.56 m) below land-surface datum, Nov. 12, 1959.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
MAR. 10, 1977	228.69						

340535117573501. Local number, 001S010W07R02 S (Key Well U.S. 75).

LOCATION.--Lat 34°05'35", long 117°57'35", Baldwin Park.

Owner: Los Angeles County Flood Control District.

AQUIFER.--Fine sand to coarse gravel in alluvial deposits.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 16 in (41 cm), depth 200 ft (61 m), perforated 74 to 174 ft (23 to 53 m), 181 to 196 ft (55 to 60 m).

DATUM.--Altitude of land-surface datum is 387 ft (118 m) above mean sea level.

PERIOD OF RECORD.--1903 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 56.0 ft (17.1 m) below land-surface datum,

May 19, 1916; lowest measured, 180.97 ft (55.16 m) below land-surface datum, Sept. 26, 1977.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT. 22, 1976	173.49	JAN. 27, 1977	173.93	APR. 27, 1977	173.76	JULY 25, 1977	177.76
NOV. 19	173.13	FEB. 22	171.67	MAY 23	174.72	AUG. 25	179.77
DEC. 22	174.48	MAR. 23	172.23	JUNE 27	174.80	SEP. 26	180.97

335506118083201. Local number, 003S012W08L03 S.

LOCATION.--Lat 33°55'06", long 118°08'32", near Downey.

Owner: Los Angeles County Farm.

AQUIFER.--Gaspur water-bearing zone of Holocene age and underlying deposits of Pleistocene age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 8 in (20 cm), depth 248 ft (76 m), cased with steel.

DATUM.--Altitude of land-surface datum is 92 ft (28 m) above mean sea level.

PERIOD OF RECORD.--January 1930 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 14.45 ft (4.40 m) below land-surface datum,

Mar. 20, 1930; lowest measured, 83.69 ft (25.51 m) below land-surface datum, Aug. 27, 1962.

COOPERATION.--Records were furnished by San Gabriel Valley Protective Association.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT. 4, 1976	67.3	JAN. 3, 1977	66.4	APR. 4, 1977	66.5	JULY 6, 1977	68.0
NOV. 1	66.9	FEB. 7	66.1	MAY 2	67.1	AUG. 3	70.2
DEC. 6	66.9	MAR. 7	66.2	JUNE 1	67.2	SEP. 7	70.3

## LOS ANGELES COUNTY--Continued

344929118124401. Local number, 004S013W14L01 S.

LOCATION.--Lat 34°49'29", long 118°12'44", Long Beach.

Owner: Southern California Edison Co., Ltd.

AQUIFER.--Gasper water-bearing zone of Holocene age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 10 in (25 cm), depth 116 ft (35 m), previously reported 114 ft (35 m), perforated 90 to 116 ft (27 to 35 m).

DATUM.--Land-surface datum is 28.55 ft (8.70 m) above mean sea level.

PERIOD OF RECORD.--February 1930 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 20.62 ft (6.28 m) below land-surface datum,

Apr. 5, 1941; lowest measured, 73.86 ft (22.51 m) below land-surface datum, Sept. 22, 1971.

COOPERATION.--Records were furnished by city of Long Beach.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT. 20, 1976	56.22	JAN. 27, 1977	N	APR. 11, 1977	55.62	JULY 13, 1977	55.32
NOV. 22	N	FEB. 9	55.82	MAY 18	55.42	AUG. 10	54.02
DEC. 22	56.13	MAR. 15	55.52	JUNE 8	55.22	SEP. 14	54.82

334905118124601. Local number, 004S013W23B02 S (Silverado Well), previously published as 4S/13W-23G2 S.  
LOCATION.--Lat 33°49'05", long 118°12'46", near Long Beach.

Owner: City of Long Beach.

AQUIFER.--Gravel in uppermost part of Silverado water-bearing zone of Pleistocene age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 26 to 16 in (66 to 41 cm), depth 1,074 ft (327 m), perforated 650 to 900 ft (198 to 274 m).

DATUM.--Land-surface datum is 23.23 ft (7.08 m) above mean sea level.

PERIOD OF RECORD.--October 1932 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 52.93 ft (16.13 m) below land-surface datum,

Feb. 6, 1939; lowest measured, 131.75 ft (40.15 m) below land-surface datum, Jan. 20, 1953.

COOPERATION.--Records were furnished by city of Long Beach.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT. 20, 1976	129.38	JAN. 19, 1977	116.68	APR. 20, 1977	120.58	JULY 13, 1977	124.58
NOV. 17	118.23	FEB. 16	117.38	MAY 18	119.98	AUG. 10	123.08
DEC. 22	117.68	MAR. 15	115.98	JUNE 8	122.08	SEP. 21	120.58

## ORANGE COUNTY

334837118040001. Local number, 004S011W19K01 S.

LOCATION.--Lat 33°48'37", long 118°04'00", near Los Alamitos.

Owner: Los Alamitos Sugar Co.

AQUIFER.--Deposits of Pleistocene age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 12 in (30 cm), depth 460 ft (140 m), previously reported 448 ft (137 m), perforated 440 to 460 ft (134 to 140 m).

DATUM.--Land-surface datum is 28.50 ft (8.69 m) above mean sea level.

PERIOD OF RECORD.--1901, August 1903, September 1929 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, flowing, 1901; lowest measured, 73.53 ft (22.41 m) below land-surface datum, July 22, 1957.

COOPERATION.--Records were furnished by city of Long Beach.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT. 19, 1976	51.28	JAN. 19, 1977	47.08	APR. 20, 1977	54.18	JULY 26, 1977	58.78
NOV. 16	52.78	FEB. 15	48.98	MAY 17	51.28	AUG. 23	58.98
DEC. 21	50.18	MAR. 15	50.08	JUNE 29	55.58	SEP. 20	56.98

N No measurement.

GROUND WATER  
RIVERSIDE COUNTY

340039116105701. Local number, 002S008E07K01 S (Stokes No. 2).  
LOCATION.--Lat 34°00'39", long 116°10'57", in narrow valley east of Hidden Valley at west side of Lost Horse Valley.  
Owner: National Park Service.  
AQUIFER.--Residium.  
WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 8 in (20 cm), depth 290 ft (88 m).  
DATUM.--Altitude of land-surface datum is 4,100 ft (1,250 m) above mean sea level.  
PERIOD OF RECORD.--November 1961 to current year.  
EXTREMES FOR CURRENT YEAR.--Highest water level measured, 202.52 ft (61.73 m) below land-surface datum, Sept. 10, 1962; lowest measured, 227.41 ft (69.31 m) below land-surface datum, Apr. 20, 1977.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV. 4, 1976	226.86	APR. 20, 1977	227.41				

335612115243301. Local number, 003S015E04J01 S (Kaiser No. 2).  
LOCATION.--Lat 33°56'12", long 115°24'33", east end of Pinto basin near Kaiser Steel Co.'s Eagle Mountain wells.  
Owner: National Park Service.  
AQUIFER.--Alluvium.  
WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 16 in (41 cm), depth 575 ft (175 m), perforated 250 to 520 ft (76 to 158 m).  
DATUM.--Land-surface datum is 1,080.6 (329.4 m) above mean sea level.  
PERIOD OF RECORD.--December 1954 to current year.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 150.00 ft (45.72 m) below land-surface datum, Dec. 4, 1954; lowest measured, 169.00 ft (51.51 m) below land-surface datum, Apr. 19, 1977.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV. 4, 1976	168.91C	APR. 19, 1977	169.00C				

334712115485601. Local number 004S011E27Q01 S (Cottonwood Well).  
LOCATION.--Lat 33°47'12", long 115°48'56", in Smoketree Wash 3.5 mi (5.6 km) north of Cottonwood Spring.  
Owner: National Park Service.  
AQUIFER.--Alluvium.  
WELL CHARACTERISTICS.--Drilled public-supply water-table well, diameter 12 in (30 cm) 0 to 232 ft (71 m), perforated 212 to 228 ft (65 to 69 m), diameter 10 in (25 m), preperforated 208.75 to 402.75 ft (63.63 to 122.76 m), depth 403 ft (123 m).  
DATUM.--Altitude of land-surface datum is 2,975 ft (907 m) above mean sea level.  
PERIOD OF RECORD.--November 1958 to October 1961, March 1963 to current year.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 170.29 ft (51.90 m) below land-surface datum, Mar. 12, 1959; lowest measured, 191.89 ft (58.49 m) below land-surface datum, June 15, 1972.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV. 4, 1976	187.19	APR. 19, 1977	189.00				

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

LOCAL IDENTIFIER			DATE OF SAMPLE	TIME	SPECIFIC CONDUCTANCE (MICROMHOS)	TEMPERATURE (DEG C)	HARDNESS (CA, MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)	DIS-SOLVED CALCIUM (CA) (MG/L)	DIS-SOLVED MAGNESIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	PERCENT SODIUM
004S011E27Q01S			76-11-04	1600	415	21.5	110	0	34	6.5	39	43
DATE OF SAMPLE	SODIUM ADSORPTION RATIO	DIS-SOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HC03) (MG/L)	ALKALINITY AS CAC03 (MG/L)	DIS-SOLVED SULFATE (S04) (MG/L)	DIS-SOLVED CHLORIDE (CL) (MG/L)	DIS-SOLVED FLUORIDE (F) (MG/L)	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED IRON (FE) (UG/L)
76-11-04	1.6	1.6	144	118	26	39	2.7	25	245	.33	130	40

C Nearby well being pumped.



## SAN BERNARDINO COUNTY

340717117194601. Local number, 001N004W32N01 S (Baseline Well).

LOCATION.--Lat 34°07'17", long 117°19'46", northwest of San Bernardino.

Owner: City of San Bernardino.

AQUIFER.--Alluvium of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 20 in (51 cm), depth 581 ft (177 m), perforated 126 to 184 ft (38 to 56 m), 224 to 232 ft (68 to 71 m), 262 to 304 ft (80 to 93 m), 312 to 372 ft (95 to 113 m), 468 to 476 ft (143 to 145 m), 540 to 560 ft (165 to 171 m), cased with steel.

DATUM.--Land-surface datum is 1,184.8 ft (361.1 m) above mean sea level.

PERIOD OF RECORD.--July 1946 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 49.10 ft (14.96 m) below land-surface datum,

Mar. 6, 1947; lowest measured, 247.1 ft (75.3 m) below land-surface datum, Aug. 27, 1968.

COOPERATION.--Records were furnished by San Bernardino Municipal Water Department.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT. 20, 1976	219.21A	JAN. 19, 1977	172.91	APR. 18, 1977	174.21	JULY 13, 1977	214.81
NOV. 18	223.51A	FEB. 22	174.51	MAY 19	174.01	AUG. 23	216.21
DEC. 15	222.81A	MAR. 23	174.51	JUNE 14	215.21	SEP. 22	220.71

340328117185001. Local number, 001S004W29H02 S (Flume 1).

LOCATION.--Lat 34°03'28", long 117°18'50", south of Colton.

Owner: Riverside Water Co.

AQUIFER.--Alluvium of Pleistocene and Holocene age.

WELL CHARACTERISTICS.--Drilled irrigation water-table well, diameter 20 in (51 cm), depth 189 ft (58 m), perforated 43 to 70 ft (13 to 21 m), 83 to 97 ft (25 to 30 m), 131 to 169 ft (40 to 52 m), cased with steel.

DATUM.--Land-surface datum is 934.4 ft (284.8 m) above mean sea level.

PERIOD OF RECORD.--June 1928 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.90 ft (0.88 m) below land-surface datum,

Apr. 8, 1938; lowest measured, 127.40 ft (38.83 m) below land-surface datum, Oct. 30, 1964.

COOPERATION.--Records were furnished by owner.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT. 12, 1976	64.89	JAN. , 1977	72.79	APR. , 1977	75.19	JULY , 1977	N
NOV. 1	73.09	FEB.	73.09	MAY	N	AUG.	N
DEC. 1	75.09	MAR.	79.80	JUNE	N	SEP.	N

A Well being pumped.

N No measurement.

## GROUND WATER

## SAN DIEGO COUNTY

332018117080701. Local number, 010S002W06F02 S.

LOCATION.--Lat 33°20'18", long 117°08'07", Monserate Narrows, near gaging station.

Owner: San Luis Rey Ranch.

AQUIFER.--Alluvium of Holocene age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 12 in (30 cm), depth 109 ft (33 m), cased with steel.

DATUM.--Land-surface datum is 282.76 ft (86.18 m) above mean sea level.

REMARKS.--Published measurements prior to 1951 are for well 10S/2W-6F6.

PERIOD OF RECORD.--January 1951 to March 1973, January 1975 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 6.92 ft (2.11 m) below land-surface datum, Mar. 11, 1969; lowest, dry, Aug. 13, 1962, Aug. 17, 1964.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT. 8, 1976	12.63A	FEB. 3, 1977	7.34	JUNE 9, 1977	11.10A	AUG. 25, 1977	10.63
NOV. 19	8.74	MAR. 23	7.34	JULY 22	13.83A	SEP. 26	14.04A
DEC. 17	8.24	APR. 22	7.45				

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

LOCAL IDENT- IFIER	DATE OF SAMPLE	TIME	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (CA, MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)
010S002W06F02S	77-09-25	1415	1420	6.8	19.5	510	280	130	44	81

DATE OF SAMPLE	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	ALKA- LINITY AS CACO3 (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SI02) (MG/L)	DIS- SOLVED (SUM OF CONSTI- TUENTS) (MG/L)	TOTAL NITRATE (NO3) (MG/L)
77-09-25	25	1.6	9.0	280	0	230	260	130	.3	27	880	.00

DATE OF SAMPLE	DIS- SOLVED BORON (B) (UG/L)	TOTAL IRON (FE) (UG/L)
77-09-25	100	0

A Well being pumped.

## SANTA BARBARA COUNTY

342414119274201. Local number, 004N025W26A01 S.

LOCATION.--Lat 34°24'14", long 119°27'42", about 3 mi (5 km) east of Carpinteria on Gobernador Road.

Owner: Moses Mesa Associates Co.

AQUIFER.--Casitas Formation of Pleistocene age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 10 in (25 cm), depth 480 ft (146 m), cased to 480 ft (146 m), perforated 228 to 480 ft (69 to 146 m).

DATUM.--Altitude of land-surface datum is 420 ft (128 m) above mean sea level.

PERIOD OF RECORD.--January 1940 to May 1941, June 1944 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 185.40 ft (56.51 m) below land-surface datum, Apr. 8, 1975; lowest measured, 387.00 ft (117.96 m) below land-surface datum, Nov. 28, 1955.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
APR. 18, 1977	190.78						

343627120030801. Local number, 006N030W09N01 S.

LOCATION.--Lat 34°36'27", long 120°03'08", near Santa Ynez.

Owner: San Lucas Ranch.

AQUIFER.--Paso Robles(?) Formation of Pliocene and Pleistocene(?) age.

WELL CHARACTERISTICS.--Drilled stock water-table well, diameter 8 in (20 cm), depth 160 ft (49 m).

DATUM.--Land-surface datum is 660.01 ft (201.17 m) above mean sea level.

PERIOD OF RECORD.--December 1941 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 24.06 ft (7.33 m) below land-surface datum, July 27, 1960; lowest measured, 53.36 (16.26 m) below land-surface datum, Apr. 6, 1977.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
APR. 6, 1977	53.36						

343709120144701. Local number, 006N032W09A02 S.

LOCATION.--Lat 34°37'09", long 120°14'47", near Buellton.

Owner: E. F. Airey.

AQUIFER.--Alluvium.

WELL CHARACTERISTICS.--Drilled irrigation water-table well, diameter 12 in (30 cm), depth 72 ft (22 m).

DATUM.--Land-surface datum is 308.03 ft (93.95 m) above mean sea level.

PERIOD OF RECORD.--November 1941 to August 1942, April 1945, September 1949 to August 1958, August 1960 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 29.23 ft (8.91 m) below land-surface datum, Jan. 16, 1952; lowest measured, 42.30 ft (12.89 m) below land-surface datum, Sept. 20, 1971.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
APR. 7, 1977	36.82						

343831120055001. Local number, 007N031W36L02 S.

LOCATION.--Lat 34°38'31", long 120°05'50", Baseline and Grand (Refugio) Avenues, near Ballard.

Owner: D. B. Kilbourne.

AQUIFER.--Paso Robles Formation.

WELL CHARACTERISTICS.--Drilled domestic and irrigation water-table well, diameter 12 in (30 cm), depth 230 ft (70 m).

DATUM.--Land-surface datum is 720.64 ft (219.65 m) above mean sea level.

PERIOD OF RECORD.--October 1942 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 16.54 ft (5.04 m) below land-surface datum, Apr. 7, 1943; lowest measured, 128.20 ft (39.07 m) below land-surface datum, Oct. 14, 1968.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
APR. 11, 1977	87.01						

## SANTA BARBARA COUNTY--Continued

344219120250601. Local number, 007N034W12E01 S.

LOCATION.--Lat 34°42'19", long 120°25'06", near Lompoc, Union Oil Co., Purisima Lease.

Owner: U. S. Geological Survey.

AQUIFER.--Careaga Sand of Pliocene age.

WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 8 to 16 in (20 to 41 cm), depth 385 ft (117 m), cased to 385 ft (117 m), perforated 145 to 385 ft (44 to 117 m).

DATUM.--Land-surface datum is 385.83 ft (117.60 m) above mean sea level.

PERIOD OF RECORD.--June 1949 to July 1950, January 1956 to December 1956, January 1959 to December 1959, January 1961 to October 1967, July 1970 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 301.00 ft (91.74 m) below land-surface datum, June 19, 1949; lowest, dry, Mar. 29, Oct. 27, 1967.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT. 6, 1976	M	JAN. 24, 1977	318.50	APR. 27, 1977	N	JULY 27, 1977	318.80
NOV. 1	318.25	MAR. 1	318.45	MAY 24	318.46	AUG. 29	318.92
NOV. 24	318.45	MAR. 29	318.55	JUNE 28	318.75	SEP. 26	318.93
DEC. 29	318.60						

344043120322402. Local number, 007N035W23E04 S.

LOCATION.--Lat 34°40'43", long 120°32'24", Ocean and Union Sugar Co. Avenues, near Lompoc.

Owner: U. S. Geological Survey, Union Sugar Co. property.

AQUIFER.--Alluvium.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 2 in (5 cm), depth 28 ft (9 m).

DATUM.--Land-surface datum is 36.90 ft (11.24 m) above mean sea level.

PERIOD OF RECORD.--October 1947 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 6.65 ft (2.03 m) below land-surface datum, Mar. 23, 1976; lowest measured, 22.79 ft (6.95 m) below land-surface datum, Aug. 26, 1948.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
APR. 12, 1977	13.29						

344546120252901. Local number, 008N034W23B01 S.

LOCATION.--Lat 34°45'46", long 120°25'29", Harris-Los Alamos Road and State Highway 1, near Los Alamos.

Owner: Josephine Harris Estate.

AQUIFER.--Alluvium.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 12 in (30 cm), depth 150 ft (46 m).

DATUM.--Altitude of land-surface datum is 315 ft (96 m) above mean sea level.

PERIOD OF RECORD.--December 1943 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 12.19 ft (3.72 m) below land-surface datum, Feb. 29, 1944; lowest measured, 36.36 ft (11.08 m) below land-surface datum, Mar. 8, 1972.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
APR. 7, 1977	23.50						

M Obstruction in well above water surface.

N No measurement.

## SANTA BARBARA COUNTY--Continued

345616120231001. Local number, 010N033W19B01 S.

LOCATION.--Lat 34°56'16", long 120°23'10", Battles and East Stowell Roads, near Santa Maria.

Owner: Owen T. Rice.

AQUIFER.--Alluvium and Paso Robles Formation of Pliocene and Pleistocene age.

WELL CHARACTERISTICS.--Drilled irrigation water-table well, diameter 16 in (41 cm), depth 307 ft (94 m), perforated 92 to 97 ft (28 to 30 m), 116 to 125 ft (35 to 38 m), 190 to 215 ft (58 to 66 m), 238 to 248 ft (73 to 76 m).

DATUM.--Altitude of land-surface datum is 275 ft (84 m) above mean sea level.

PERIOD OF RECORD.--December 1927, August 1929 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 72.70 ft (22.16 m) below land-surface datum, Apr. 1, 1970; lowest measured, 191.3 ft (58.3 m) below land-surface datum, Aug. 30, 1965.

COOPERATION.--Reported measurements were furnished by Santa Maria Valley Water Conservation District.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT. 6, 1976	169.9 G	APR. 4, 1977	167.00G	JULY 5, 1977	176.90G	SEP. 30, 1977	181.1 G
JAN. 6, 1977	158.50G	APR. 6	124.89				

345742120362501. Local number, 010N035W07F01 S.

LOCATION.--Lat 34°57'42", long 120°36'25", near Guadalupe.

Owner: M. J. Ellis.

AQUIFER.--Alluvium and Paso Robles Formation of Pliocene and Pleistocene(?) age.

WELL CHARACTERISTICS.--Drilled domestic and irrigation artesian well, diameter 12 in (30 cm), depth 249 ft (76 m), perforated 140 to 145 ft (43 to 44 m), 200 to 225 ft (61 to 69 m).

DATUM.--Altitude of land-surface datum is 48 ft (15 m) above mean sea level.

PERIOD OF RECORD.--August 1929 to August 1936, April 1938 to July 1977 (destroyed).

EXTREMES FOR PERIOD OF RECORD.--Highest water level flowing, Jan. 1, 1942, Jan. 1, Feb. 29, Nov. 29, Dec. 28, 1944, Jan. 1, Apr. 1, Dec. 28, 1945, Jan. 1, Dec. 28, 1946, Jan. 7, 1947; lowest measured, 37.40 ft (11.40 m) below land-surface datum, July 1, 1961.

COOPERATION.--Reported measurements were furnished by Santa Maria Valley Water Conservation District.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT. 6, 1976	8.8 G	APR. 4, 1977	9.1 G	APR. 6, 1977	9.30	JULY , 1977	P
JAN. 6, 1977	6.3 G						

G Measurement by another agency.

P Well destroyed.



# INDEX

	Page		Page
Accuracy of field data and computed results....	19	Colorado River aqueduct near San Jacinto.....	41
Acre-foot, definition of.....	3	Color unit, definition of.....	6
Agua Caliente Creek near Warner Springs.....	285	Conejo Creek above Highway 101, near Camarillo..	492
Alamo Creek near Nipomo.....	615	Contents, definition of.....	6
Alamo Pintado Creek near Solvang.....	602	Control, definition of.....	6
Alamo River at Drop No. 3, near Calipatria.....	143	Control structure, definition of.....	6
Alamo River at Drop No. 9, near Holtville.....	135	Convict Creek near Mammoth Lakes.....	228
Alamo River near Niland.....	148	Cooperation.....	2
Algae, definition of.....	3	Cottonwood Creek (head of Tijuana River) above	
Alhambra Wash at Klingerman Street near		Tecate Creek, near Dulzura.....	257
Montebello.....	468	Cottonwood Creek (Owens Lake basin) near Olancho	250
Alisal Reservoir near Solvang.....	603	Coyote Creek (tributary to Salton Sea) near	
Aliso Creek at El Toro.....	317	Borrego Springs.....	186
All-American Canal, below Drop 1, near		Coyote Creek (tributary to San Gabriel River) at	
Calexico.....	117	Los Alamitos.....	457
below Pilot Knob wasteway.....	116	Coyote Creek (tributary to Ventura River), near	
near Imperial Dam, Ariz.-Calif.....	114	Oak View.....	574
Amargosa River at Tecopa.....	131	near Ventura.....	576
Andreas Creek near Palm Springs.....	200	Crest-stage partial-record stations, discharge	
Aquifer, definition of.....	3	at.....	623
Arroyo Burro Creek at Santa Barbara.....	588	Cubic foot per second, definition of.....	6
Arroyo Seco (tributary to Los Angeles River)		Cucamonga Creek, near Mira Loma.....	396
near Pasadena.....	465	Cuyama River, below Buckhorn Canyon, near Santa	
Arroyo Simi near Simi.....	487	Maria.....	614
Arroyo Trabuco at San Juan Capistrano.....	311	below Twitchell Dam.....	617
Artesian, definition of.....	3	Dale Lake basin, crest-stage partial-record	
Atascadero Creek, at Puente Road, near Goleta...	624	stations in.....	623
Atascadero Creek basin, crest-stage partial-		Darwin Creek near Darwin.....	129
record stations in.....	624	Data, field, accuracy of and computed results...	19
Bacteria, definition of.....	3	explanation of, ground-water levels.....	23
Ballona Creek near Culver City.....	484	surface-water records.....	16
Bautista Creek at Valle Vista.....	387	water-quality records.....	20
Bed material, definition of.....	5	other data available.....	19
Beeler Creek at Pomerado Road, near Poway.....	276	Deep Creek (head of Mojave River) near Hesperia.	205
Benthic organisms, definition of.....	5	Deep Creek (tributary to Salton Sea) near Palm	
Big Bear Lake near Big Bear Lake.....	332	Desert.....	201
Big Pine Creek near Big Pine.....	234	Definition of terms.....	3
Big Rock Creek near Valyermo.....	223	Devil Canyon Creek near San Bernardino.....	368
Big Tujunga Creek below Hansen Dam.....	461	Discharge, partial-record stations.....	623
Big Tujunga Creek near Sunland.....	460	crest-stage partial-record stations.....	623
Biochemical oxygen demand, definition of.....	5	definition of.....	6
Biomass, definition of.....	5	Dissolved, definition of.....	6
Bishop Creek below powerplant No. 6, near Bishop	233	Diversity index, definition of.....	6
Borrego Palm Creek near Borrego Springs.....	187	Downstream order and station number.....	12
Bottom material, definition of.....	5	Drainage area, definition of.....	7
Bradley ditch near Donovan Road, at Santa Maria.	621	Drainage basin, definition of.....	7
Brea Creek below Brea Dam, near Fullerton.....	454	East Twin Creek near Arrowhead Springs.....	354
Cachuma, Lake, near Santa Ynez.....	600	El Capitan Reservoir near Lakeside.....	269
Cajon Creek below Lone Pine Creek, near		Elizabeth Lake Canyon Creek above Castaic Lake.	
Keenbrook.....	367	near Castaic.....	504
Calleguas Creek at Camarillo State Hospital....	493	El Modena-Irvine Channel near Irvine.....	324
Campo Creek near Campo.....	258	El Paso Wash, near Inyokern.....	623
Canada de los Alamos above Pyramid Lake.....	518	tributary No. 1, near Inyokern.....	624
Carbon Creek below Carbon Canyon Dam.....	424	tributary No. 2, near Inyokern.....	623
Carpinteria Creek near Carpinteria.....	584	tributary No. 3, near Inyokern.....	623
Caruthers Creek near Ivanpah.....	132	tributary No. 4, near Inyokern.....	623
Castaic Creek One Mile above Fish Creek, near		tributary No. 5, near Inyokern.....	623
Castaic.....	501	Emerson Lake basin, crest-stage partial-record	
Castaic Lagoon Parshall Flume near Castaic.....	505	stations in.....	623
Cells/volume, definition of.....	6	Explanation of, ground-water level records.....	23
Chemical oxygen demand, definition of.....	6	stage and water-discharge records.....	16
Chino Canyon Creek near Palm Springs.....	197	water-quality records.....	20
Chino Creek at Schaefer Avenue, near Chino.....	394	Fish Creek above Castaic Creek, near Castaic....	502
Chlorophyll, definition of.....	6	Fish Creek near Duarte.....	446
City Creek near Highland.....	340	Fortynine Palms Creek near Twenty-nine Palms....	623
Collection and computation of data, stage and		Franklin Creek at Carpinteria.....	585
water-discharge records.....	16	Ft/s-day, definition of.....	7
Collection and examination of data, water-		Fullerton Creek, at Richman Avenue, at Fullerton	456
quality records.....	20	below Fullerton Dam, near Brea.....	455
Collection of the data, ground-water levels....	23	Gage height, definition of.....	7
Colorado River, above Imperial Dam, Ariz.-Calif.	74	Gaging station, definition of.....	7
at Needles.....	35	Gaviota Creek near Gaviota.....	593
at northerly international boundary, above		Gibraltar Reservoir, contents of.....	596
Morelos Dam, near Andrade.....	95	Gila Gravity Main Canal at Imperial Dam,	
at Palo Verde Dam, Ariz.-Calif.....	65	Ariz.-Calif.....	111
below Davis Dam, Ariz.-Nev.....	33	Ground-water levels, by county.....	626
below Hoover Dam, Ariz.-Nev.....	26	Los Angeles County.....	626
below Imperial Dam, schematic diagram of....	128	Orange County.....	627
below Laguna Dam, Ariz.-Calif.....	91	Riverside County.....	628
below Parker Dam, Ariz.-Calif.....	54	San Bernardino County.....	629
Colorado River near Topock, Ariz.....	36	San Diego County.....	630
Colorado River aqueduct, near Parker, Dam		Santa Barbara County.....	631
Ariz.-Calif.....	39		

	Page		Page
Guejito Creek near San Pasqual.....	281	Mission Creek (Salton Sea basin) near Desert Hot Springs.....	196
Hardness, definition of.....	7	Mission Creek (tributary to Pacific Ocean), at Santa Barbara.....	624
Havasu, Lake, near Parker Dam, Ariz.-Calif.....	52	near Mission Street, at Santa Barbara.....	586
Hemet, Lake, near Idyllwild.....	384	Mission Creek basin, crest-stage partial-record stations in.....	624
Hodges, Lake, near Escondido.....	283	Mojave River, at Afton.....	222
Hopper Creek near Piru.....	529	at Barstow.....	221
Huasna River near Arroyo Grande.....	616	at lower narrows, near Victorville.....	208
Hydrologic bench-mark station.....	15	below Forks Reservoir, near Hesperia.....	207
Hydrologic conditions.....	3	near Hodge.....	220
Independence Creek below Pinyon Creek, near Independence.....	248	West Fork, near Hesperia.....	206
Indian wells valley, crest-stage partial-record stations in.....	623	Mono Lake near Mono Lake.....	252
Introduction.....	1	Murrieta Creek at Temecula.....	298
Jalama Creek near Lompoc.....	594	National stream-quality accounting network.....	15
Jameson Lake, contents of.....	595	Necktie Canyon Creek above Castaic Creek near Castaic.....	503
Jamul Creek near Jamul.....	264	Nekton, definition of.....	7
Keys Creek tributary at Valley Center.....	290	New River at Drop No. 4, at Brawley.....	170
Lakes and reservoirs:		New River, at international boundary, at Calexico.....	155
Alisal Reservoir near Solvang.....	603	near Westmorland.....	177
Big Bear Lake near Big Bear Lake.....	332	Numbering system for wells and miscellaneous sites.....	13
Cachuma, Lake, near Santa Ynez.....	600	Oak Creek near Mojave.....	226
El Capitan Reservoir near Lakeside.....	269	Oso Creek at Crown Valley Parkway, near Mission Viejo.....	310
Gibraltar Reservoir.....	596	Organism, definition of.....	8
Havasu, Lake, near Parker Dam, Ariz.-Calif.....	52	Other data available.....	19
Hemet, Lake, near Idyllwild.....	384	Owens River, at Keeler Bridge, near Lone Pine.....	249
Hodges, Lake, near Escondido.....	283	below Tinemaha Reservoir, near Big Pine.....	236
Jameson Lake.....	595	Pacoima Creek near San Fernando.....	459
Lower Otay Reservoir near Chula Vista.....	265	Palm Canyon Creek near Palm Springs.....	199
Matilija Reservoir at Matilija Hot Springs.....	562	Palo Verde Canal near Blythe.....	60
Mono Lake near Mono Lake.....	252	Palo Verde Irrigation District Anderson Drain near Palo Verde.....	73
Piru, Lake, near Piru.....	525	Palo Verde Irrigation District Olive Lake Drain near Blythe.....	66
Rodriguez Reservoir at Rodriguez Dam, Baja California, Mexico.....	260	Palo Verde Irrigation District Outfall Drain nr Palo Verde.....	68
San Vicente Reservoir near Lakeside.....	270	Partial-record stations, crest-stage.....	623
Sweetwater Reservoir near National City.....	268	definition of.....	8
Vail Lake.....	297	discharge at.....	623
Wohlford, Lake, near Escondido.....	284	Particle size, definition of.....	8
Las Flores Creek near Oceanside.....	303	Particle-size classification, definition of.....	8
Lee Vining Creek near Lee Vining.....	256	Pauma Creek near Pauma Valley.....	287
Little Dixie Wash near Inyokern.....	624	Percent composition or percent of total, definition of.....	8
Little Rock Creek near Little Rock.....	225	Periphyton, definition of.....	8
Little San Geronio Creek near Beaumont.....	348	Pesticide program.....	16
Local well numbers.....	13	Pesticides.....	8
Lockwood Creek, at Gorge, near Stauffer.....	516	Picocurie, definition of.....	8
Middle Fork, near Stauffer.....	515	Pilot Knob powerplant and wasteway near Pilot Knob.....	115
Lone Pine Creek near Keenbrook.....	366	Pine Creek at division box, near Bishop.....	231
Long Creek near Desert Hot Springs.....	623	Pine Tree Creek near Mojave.....	227
Los Angeles River, at Feliz Boulevard, at Los Angeles.....	462	Pipes Creek near Yucca Valley.....	623
at Long Beach.....	473	Piru Creek, above Frenchmans Flat.....	519
at Los Angeles.....	464	above Lake Piru.....	522
at Sepulveda Dam.....	458	below Buck Creek, near Pyramid Lake.....	517
at Willow Street Bridge, at Long Beach.....	474	below Santa Felicia Dam.....	526
near Downey.....	466	below Thorn Meadows, near Stauffer.....	514
Los Angeles River basin, schematic diagram of...	442	Piru, Lake, near Piru.....	525
Los Penasquitos Creek, below Poway Creek, near Poway.....	277	Plankton, definition of.....	9
near Poway.....	278	Plunge Creek near East Highlands.....	338
Lower Otay Reservoir near Chula Vista.....	265	Polychlorinated biphenyls, definition of.....	9
Lytte Creek, at Colton.....	369	Precipitation:	
near Fontana.....	364	Los Penasquitos Creek below Poway Creek, near Poway.....	277
Macrophytes, definition of.....	7	Mission Creek near Desert Hot Springs.....	196
Malibu Creek at Crater Camp, near Calabasas.....	486	Pine Tree Creek near Mojave.....	227
Maria Ygnacio Creek at University Drive, near Goleta.....	589	Temecula Creek at Vail Dam.....	297
Matilija Creek, at Matilija Hot Springs.....	563	Primary productivity.....	9
North Fork, at Matilija Hot Springs.....	565	Publications of techniques of water-resources investigations.....	24
Matilija Reservoir at Matilija Hot Springs.....	562	Purisima Creek near Lompoc.....	625
Meeks and Daley Canal near Colton.....	363	Quail Wash near Joshua Tree.....	623
Metamorphic stage, definition of.....	7	Radiochemical program.....	16
Methylene blue active substance, definition of...	7	Records of discharge collected by agencies other than the Geological Survey.....	20
Micrograms per gram, definition of.....	7	Reservoirs. See lakes and reservoirs.	
Micrograms per liter, definition of.....	7		
Miguelito Creek at Lompoc.....	608		
Mill Creek (tributary to Mono Lake) below Lundy Lake, near Mono Lake.....	253		
Mill Creek (tributary to Santa Ana River) near Yucaipa.....	336		
Milligrams per liter, definition of.....	7		
Mission Creek (Los Angeles River basin) near Montebello.....	470		



	Page		Page
Return surface flows below Imperial Dam, Ariz.-Calif.....	122	Santa Ana River, at Mission Boulevard, at Riverside.....	370
Reyes Creek near Ventucopa.....	613	at MWD Crossing, near Arlington.....	371
Rialto pipeline below San Antonio Dam, near Claremont.....	393	at Prado Park, near Corona.....	379
Rio Hondo, above Whittier Narrows Dam.....	467	at Santa Ana.....	432
below Whittier Narrows Dam.....	471	at Waterman Avenue, at San Bernardino.....	342
near Downey.....	472	below Prado Dam.....	397
near Montebello.....	469	near Mentone.....	333
Riverside Water Quality Control Plant at Riverside Narrows, near Arlington.....	375	schematic diagram of.....	331
Rock Creek at Little Round Valley, near Bishop..	230	Santa Ana River spreading diversion, below Imperial Highway, near Anaheim.....	421
Rodeo-San Pasqual Creek near Lompoc.....	625	near Mentone.....	335
Rodriguez Reservoir at Rodriguez Dam, Baja California, Mexico.....	260	Santa Clara River, above railroad station, near Lang.....	449
Runoff map.....	4	at Los Angeles-Ventura County line.....	506
Rush Creek, above Grant Lake, near June Lake....	255	at Montalvo.....	557
below Agnew Lake, near June Lake.....	254	near Santa Paula.....	548
Salsipuedes Creek (tributary to Santa Ynez River) near Lompoc.....	606	South Fork Santa Clara River, at Saugus.....	500
Salt Creek (Death Valley) near Stovepipe Wells.....	130	Santa Cruz Creek near Santa Ynez.....	599
Salt Creek (Salton Sea basin) near Mecca.....	134	Santa Margarita River, at Ysidora.....	302
Salt Creek (Santa Ana River basin) at Railroad Canyon Reservoir, near Elsinore.....	389	near Fallbrook.....	300
Salton Sea, flow from Mexico at International Boundary.....	133	near Temecula.....	299
inflow to.....	133	Santa Maria Creek near Ramona.....	282
near Westmorland.....	133	Santa Maria River at Guadalupe.....	622
Salton Sea basin, crest-stage partial-record station in.....	623	Santa Monica Creek at Carpinteria.....	624
San Antonio Creek (Santa Ana River basin) below San Antonio Dam.....	392	Santa Monica Creek basin, crest-stage partial- record stations in.....	624
San Antonio Creek (tributary to Pacific Ocean), at Los Alamos.....	610	Santa Paula Creek near Santa Paula.....	549
near Casmalia.....	611	Santa Rita Creek near Lompoc.....	625
San Antonio Creek (Ventura River basin) at Casitas Springs.....	567	Santa Ynez River, above Gibraltar Dam, near Santa Barbara.....	596
San Bernardino Water Quality Control Plant at San Bernardino.....	357	at Jameson Lake, near Montecito.....	595
San Diego Creek, at Lane Road, near Irvine.....	330	at narrows, near Lompoc.....	607
at Sand Canyon Avenue, near Irvine.....	318	at Pine Canyon, near Lompoc.....	609
San Diego River near Santee.....	271	at Solvang.....	604
San Dimas Creek below San Dimas Dam.....	448	below Gibraltar Dam, near Santa Barbara.....	597
San Felipe Creek, near Julian.....	185	below Los Laureles Canyon, near Santa Ynez....	598
near Westmorland.....	189	Santa Ynez River basin, crest-stage partial- record stations in.....	624
San Gabriel River, above Whittier Narrows Dam... at Azusa powerhouse, at Azusa.....	450	Santa Ysabel Creek, near Ramona.....	279
at Pico.....	445	near San Pasqual.....	280
at Spring Street, near Los Alamitos.....	452	Santiago Creek, at Modjeska.....	429
at Whittier Narrows.....	453	at Santa Ana.....	430
below Santa Fe Dam, near Baldwin Park.....	451	Saticoy diversion near Saticoy.....	554
East Fork, near Camp Bonita.....	447	Sediment, collection and examination of.....	21
West Fork, at Camp Rincon.....	444	definition of.....	10
San Gabriel River basin, schematic diagram of...	442	Sespe Creek, near Fillmore.....	539
San Gorgonio River, near Banning.....	192	near Wheeler Springs.....	536
near White Water.....	194	Silver Canyon Creek near Laws.....	232
San Jacinto River, at Railroad Canyon weir, near Elsinore.....	388	Sisquoc River, near Garey.....	620
near Elsinore.....	390	near Sisquoc.....	618
near San Jacinto.....	385	Snow Creek near White Water.....	195
San Jose Creek (tributary to Pacific Ocean), at Goleta.....	592	Sodium-adsorption-ratio, definition of.....	10
near Goleta.....	591	Solute, definition of.....	10
San Jose Creek (tributary to San Gabriel River) near El Monte.....	449	Special networks and programs.....	15
San Juan Creek at San Juan Capistrano.....	304	Specific conductance, definition of.....	10
San Luis Rey River, at Monserate Narrows, near Pala.....	289	Stage-discharge relation, definition of.....	11
at Oceanside.....	292	Substrate, definition of.....	12
near Bonsall.....	291	Surface area, definition of.....	11
West Fork, near Warner Springs.....	286	Surficial bed material, definition of.....	11
San Timoteo Creek near Redlands.....	349	Suspended, definition of.....	11
San Vicente Reservoir near Lakeside.....	270	Sweetwater Reservoir near National City.....	268
San Ysidro Creek at Montecito.....	624	Sweetwater River near Descanso.....	266
record stations in.....	624	Sycamore Creek at Santa Barbara.....	624
Santa Agueda Creek near Santa Ynez.....	601	Sycamore Creek basin, crest-stage partial- record stations in.....	624
Santa Ana Creek near Oak View.....	575	Tahquitz Creek near Palm Springs.....	198
Santa Ana River, at Adams Avenue, near Costa Mesa.....	437	Taxonomy, definition of.....	11
at Ball Road, at Anaheim.....	425	Temecula Creek, at Vail Dam.....	297
at E Street, near San Bernardino.....	361	near Aguanga.....	296
at Imperial Highway, near Anaheim.....	414	Temescal Creek near Corona.....	391
		Temperature, water, collection and examination of.....	21
		Tepusquet Creek near Sisquoc.....	619
		Thermograph, definition of.....	11
		Thumbelina Creek at Buellton.....	624
		Tijuana River, near Dulzura.....	259
		near Nestor.....	261
		Tons per acre-foot, definition of.....	11
		Tons per day, definition of.....	11
		Topanga Creek near Topanga Beach.....	485
		Total load, definition of.....	12
		Turbidity, collection of.....	22
		definition of.....	12

	Page		Page
Vail Lake, contents of.....	297	Water analysis.....	20
Vallecito Creek near Julian.....	188	Waterman Canyon Creek near Arrowhead Springs....	355
Ventura River, near Meiners Oaks.....	566	WDR, definition of.....	12
near Ventura.....	577	Whitewater River, at Indio.....	202
Victoria Street drain at outlet, at Santa		at White Water.....	190
Barbara.....	587	near Mecca.....	203
Wagon Road Creek near Stauffer.....	612	Wohlford, Lake, near Escondido.....	284
Warm Creek, floodway at San Bernardino.....	356	WSP, definition of.....	12
near San Bernardino.....	362	Zaca Creek near Buellton.....	605
Wasteway No. 1 near Mecca.....	204		

## FACTORS FOR CONVERTING U.S. CUSTOMARY UNITS TO INTERNATIONAL SYSTEM UNITS (SI)

The following factors may be used to convert the U.S. customary units published herein to the International System of Units (SI). Subsequent reports will contain both the U.S. customary and SI unit equivalents in the station manuscript descriptions until such time that all data will be published in SI units.

Multiply U.S. customary units	By	To obtain SI units
<i>Length</i>		
inches (in)	$2.54 \times 10^1$	millimeters (mm)
	$2.54 \times 10^{-2}$	meters (m)
feet (ft)	$3.048 \times 10^{-1}$	meters (m)
miles (mi)	$1.609 \times 10^0$	kilometers (km)
<i>Area</i>		
acres	$4.047 \times 10^3$	square meters (m <sup>2</sup> )
	$4.047 \times 10^{-1}$	square hectometers (hm <sup>2</sup> )
	$4.047 \times 10^{-3}$	square kilometers (km <sup>2</sup> )
square miles (mi <sup>2</sup> )	$2.590 \times 10^0$	square kilometers (km <sup>2</sup> )
<i>Volume</i>		
gallons (gal)	$3.785 \times 10^0$	liters (L)
	$3.785 \times 10^0$	cubic decimeters (dm <sup>3</sup> )
	$3.785 \times 10^{-3}$	cubic meters (m <sup>3</sup> )
million gallons	$3.785 \times 10^3$	cubic meters (m <sup>3</sup> )
	$3.785 \times 10^{-3}$	cubic hectometers (hm <sup>3</sup> )
cubic feet (ft <sup>3</sup> )	$2.832 \times 10^1$	cubic decimeters (dm <sup>3</sup> )
	$2.832 \times 10^{-2}$	cubic meters (m <sup>3</sup> )
cfs-days	$2.447 \times 10^3$	cubic meters (m <sup>3</sup> )
	$2.447 \times 10^{-3}$	cubic hectometers (hm <sup>3</sup> )
acre-feet (acre-ft)	$1.233 \times 10^3$	cubic meters (m <sup>3</sup> )
	$1.233 \times 10^{-3}$	cubic hectometers (hm <sup>3</sup> )
	$1.233 \times 10^{-6}$	cubic kilometers (km <sup>3</sup> )
<i>Flow</i>		
cubic feet per second (ft <sup>3</sup> /s)	$2.832 \times 10^1$	liters per second (L/s)
	$2.832 \times 10^1$	cubic decimeters per second (dm <sup>3</sup> /s)
	$2.832 \times 10^{-2}$	cubic meters per second (m <sup>3</sup> /s)
gallons per minute (gal/min)	$6.309 \times 10^{-2}$	liters per second (L/s)
	$6.309 \times 10^{-2}$	cubic decimeters per second (dm <sup>3</sup> /s)
	$6.309 \times 10^{-5}$	cubic meters per second (m <sup>3</sup> /s)
million gallons per day	$4.381 \times 10^1$	cubic decimeters per second (dm <sup>3</sup> /s)
	$4.381 \times 10^{-2}$	cubic meters per second (m <sup>3</sup> /s)
<i>Mass</i>		
tons (short)	$9.072 \times 10^{-1}$	megagrams (Mg) or metric tons

U.S. DEPARTMENT OF THE INTERIOR  
Geological Survey  
855 Oak Grove Avenue  
Menlo Park CA 94025

POSTAGE AND FEES PAID  
U.S. DEPARTMENT OF THE INTERIOR  
INT 413



OFFICIAL BUSINESS  
PENALTY FOR PRIVATE USE \$300  
SPECIAL 4TH CLASS  
BOOK RATE